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# THE FORUM OF EDUCATION

A JOURNAL OF ENQUIRY & RESEARCH  
IN THE PSYCHOLOGY, PHILOSOPHY  
AND METHOD OF EDUCATION

EDITOR: C. W. VALENTINE, M.A., D.Phil.

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THE FORUM OF EDUCATION

## THE FORUM OF EDUCATION.

Edited by

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# The Forum of Education.

VOL. V. No. 1.

February, 1927.

## The Necessity of Experimental Pedagogy.\*

By W. H. WINCH.

AFTER I had learned to teach, I tried to improve myself by reading books on educational theory, and among others I read Compayré's summary of educational theories. These seemed to me just a see-saw through the ages, indeed, more difficult to ride on than a see-saw, justifying rather F. H. Hayward's description as possessing a circular motion. Somehow, we must escape from this sequence of assertions and counter assertions, of *dicta* and *contradicta*. For education has not been fortunate: its great theorists have not been successful teachers: its great teachers have not been theorists, and our purely educational theorists have hardly realized what philosophy is, in itself, and have evolved, or invented, a philosophy to suit their educational doctrines. Some modern exceptions, at least, can be cited. I can refer you to Percy Nunn's excellent monograph on the "Aims and Achievements of Scientific Method," and to Benjamin Dumville's papers in the proceedings of the Aristotelian Society on "Philosophy and Education."

It is often asked, however, why do we need philosophy at all. Unfortunately, philosophy is a term which embraces a variety of meanings. It sometimes means metaphysics, the *τὰ μετὰ τὰ φύσικα* of Aristotle. Is there a real world apart from us who perceive it? Are space and time infinite? And what is the ultimate constitution of matter? Is the universe monastic, dualistic, or pluralistic? And what is the ultimate relation between body and mind? Such questions are matters of philosophy. I do not believe that, merely as teachers, we need greatly concern ourselves with this aspect of philosophy. But there is another aspect which cannot be disregarded by teachers. Herbert Spencer years ago (I am not now referring to his volume called "First Principles," which was really metaphysics in the older sense) attempted a survey or summary of existing knowledge in his "Synthetic Philosophy." And that neglected genius, John Beattie Crozier, pleaded that some such summarized knowledge should form part of the mental equipment of every educated man. At least, there are questions in such summarized science or philosophy, not perhaps, finally ultimate, but rather, as Bacon would have said, *axiomata media*, which it behoves educationists to consider. If, for example, we wish by education to give not merely knowledge or skill, but to strengthen

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\* An address delivered to the Education Guild of Great Britain and Ireland.



the mental powers themselves, it makes a vast difference whether acquired traits, or an improvement of natural traits, can become hereditary or not. Kammerer's recent suicide, on learning that his work had been tampered with, and that he had promulgated unreliable doctrine, is an illustration of the seriousness with which biologists regard the issue. If it is only by eugenic doctrine, by attention to breeding rather than to environment that we can really advance mentally, the difference in our ordinary educational outlook would be enormous. Let me cite another great issue. Is it true that the child in evolution does actually reproduce in little the progress of the race? I suggest to those who lightly take a strongly affirmative view, as some educational theorists have done, to glance through Edward Lee Thorndike's "Notes on Child Study." Are we justified in regarding instincts as necessarily beneficent and the interest aroused in their satisfaction, as by itself, justifying an educational procedure? I cannot here labour these issues, I must content myself by a mere aperçu.

But, of course, there are the day-by-day procedures, the common events of school life. So why do we need definite experiment, it is often urged, when we have teachers' conferences, educational exhibitions, and inspectorial reports on schools. May I make a brief comment on each of these? We are talking animals, and I am quite sure that conferences will always be a source of delight to those who love talking and to those who wish "to pick up the latest tips" without any serious thought and inquiry of their own. They will not advance our science, though they may spread some of its conclusions, amid much which is mere opinion. Educational exhibitions are a more serious matter. But it is thought by most competent and experienced teachers that they are valuable, if at all, rather as a sort of camouflage which impresses a lay public, than as a real contribution to educational method or science. Do we not know, for all of us here are, or have been teachers, that any school, by abstracting time and energy from its usual pursuits and neglecting its ordinary time-table of work, can produce results in some aspect or other of educational attainment which greatly impress an ignorant public (teachers themselves are rarely deceived)? Just recently I had frequent business in a school in which one department was holding a handwork exhibition in the near future. For three weeks *prior* to the exhibition it smelt strongly of leather—it was not in Bermondsey—a smell which disappeared completely *after* the exhibition was over. In another school (or shall I say schools) which produced some rather good musical displays, the assistant teachers were greatly disturbed by the abstraction of their pupils from their usual lessons to make special preparation for the public performances. I am setting aside those cases in which the teachers, not the pupils, do the difficult parts of the work exhibited, and citing only those in which the work is honest, though not honestly prepared under fair school conditions. The amateur, and *sometimes* the inspector or organizer, is deceived, and quotes to other teachers, to their great indignation, the wonderful results in so-and-so to be seen at such-and-such schools, with the implication that they are to go and do likewise.

And finally, may I say a word about inspectorial reports, about which I may claim to possess a good deal of personal experience, for I have perpetrated many? I do not say they are of no value, far from it. It is very useful, from time to time, for teachers to become aware of how their



school impresses a person of wider experience, and to know what he thinks of their standard of work. But inspections and inspectors, *qua* inspectors, are not means by which the value of a school syllabus or of school methods can be scientifically tested; for even if the inspector possesses the requisite knowledge, which he does not necessarily, the teachers are not with him as inquirers; he is an outsider and represents an authority to which they must give way, or appear to give way, whether they deem it right or not. Moreover, they are anxious, and quite rightly anxious, to show that their schools are good ones. And when the inspector, after obtaining some results, asks, as he is sometimes required to ask, by what method they were obtained, the teacher sometimes "holds a candle to the devil" and tells the inspector that he has worked by a method the inspector may be suspected of favouring, whether he has actually worked that way or not. So figures are placed on the wrong side of the balance sheet, the conclusions are published with official dignity, and counsel is further darkened. One is tempted to say to teachers, I have done it myself, "Your tenure is now sufficiently secure: you *can* tell the truth: you can say, without fear, what you really believe, why don't you?" But we are all human, and not all courageous; and after all, the teacher often does not know what is best, and sometimes knows that he does not know. But put the teacher in the position of an inquirer, under guidance of course, when necessary. Ask him (or her) to help you to find out whether this or that syllabus is the better, whether this way or that way of teaching or learning is the more profitable, and he will drop his defensive attitude and heartily co-operate with you in the work—heavy and continuous work though it is.

Well, yes, this all seems so simple, then why has it not been done? To this issue I will return.

It is often said that the advocates of an experimental treatment of educational problems wish to "run a moist pen slick through everything and start fresh" like the apocryphal American Chancellor of the Exchequer. It is true that they do not join in any such cries as "Back to the Master"—it is not always the same master, by the way. It is true that they are likely to pay, at least, no overwhelming regard to the theorists of the past, before the methods of the modern world in scientific inquiry were even dimly prevised. And it is true that the advocates of experimental inquiry do not believe in authority, if by that is meant the half-guessed, half-rationalized dicta of old masters of educational theory. But they will not neglect them, and above all, they will turn with open arms and open minds to all available knowledge, and by knowledge I do not mean what the Greeks meant. Knowledge for them meant opinion which had been tested by argument and rigorous dialectics. Knowledge for us must pass that test too, but it must be more; it must be tested by the direct observation of the facts, and more than that, by *ad hoc* experiment also. But, it is asked, why lay so much stress on modern knowledge as against that of the past. Are we so much greater than our forefathers? In certain departments of human activity, it would be very difficult, and probably impossible, to establish an affirmative answer. But we of to-day have one great advantage in matters of science, meaning by that term much more than a knowledge of material and mechanical processes. We have a technique, statistical, and inductive, of making



truth in the biological sciences, of which education is one, which our forefathers did not possess. And the first place in this technique must be given to the formula of correlation, usually called the correlation coefficient. In 1846, Bravais, a Frenchman, invented a formula of this kind, and with its use and improvement for other purposes by Galton and Karl Pearson it stands firmly to-day as a great instrument in the hands of every serious worker in science. Does one quality, attribute, power, or function go with another in a proportional manner? It is, of course, the inductive logical method of concomitant variation, set out clearly by John Stuart Mill, and rendered precise and utilizable by statistical devices with which he was unacquainted. Let me take a few simple illustrations. I do not propose to weary you with the details of the calculation of this coefficient; they are set out in all books now which are written about the new methods of research. Suppose, for example, we wished to find out the relation between the age of entry into school and subsequent school progress, this formula of correlation will show us whether the relation is positive or negative or non-existent. Or take a simpler matter, and one which has been much discussed by teachers and examiners—the relation between mechanical proficiency in arithmetic and the power to solve arithmetical problems. If we take a number of measurements (*a*) of mechanical proficiency and (*b*) of proficiency in the rational solution of problems, and correlate the marks, we shall find, when the measurements have become steady, that there is high positive correlation between them: those who can do one can mostly do the other, under, of course, the ordinary circumstances of school instruction. Quite outside the usual conditions we do not know, either with these tests of scholastic attainment, or indeed with what we call mental lists of natural proficiency, what would occur.\* What can we infer from high positive correlation, given the usual school conditions? Can we say that the functions are so allied in the same mind that they work together in such a way that improvement in the one will produce improvement in the other? We find, exercising due precautions, and balancing a trained group with an untrained group of equal initial ability, that they are not. So that the method of correlation needs to be supplemented, if we hope to discover the solution of the problems which perplex teachers, and have been assumed as settled without experimental inquiry by writers on school method. Let me not be misunderstood. The correlation coefficient, however carefully calculated, is not a means of rendering *ad hoc* experiment unnecessary; but it does give it definiteness, direction, and assistance in its calculations. I take another instance, of vastly more importance to education in the broadest sense, than is the utmost proficiency in arithmetic. We know now that bright young children are not small, unwholesome specimens of humanity whose precocity is counterbalanced, and more than outweighed by poor physique. The Bureau of Child-Study in Chicago—all honour to the School Board of Chicago, the first in the world to establish an educational research department in connection with its city schools—more than thirty years ago demonstrated that the popular conception was quite wrong, and that the boys and girls most advanced in the school grades

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\* Hugh Gordon's pamphlet on "Mental Tests of Canal Boat and Gipsy Children" is illuminating in this respect. It is published by the Board of Education.



(anglicé "standards") were taller and heavier than children of the same ages in the lower grades. I did the same work in London in 1905-1906, and reached the same conclusions, though I did not publish the work, as it was merely corroborative. The same result has been obtained in Germany. This conclusion is a valuable one for educational theory; and we need no longer be apprehensive of a child's health merely because he is clever. Expressed briefly, there is considerable positive correlation between mental and physical growth. They usually go together, and it is well to know that. But a positive correlation does not, in itself, establish causation. Can we say that by improving mental acquisition or capacity that we thereby improve physical health and growth? I am not sure that such a position could not be established: many children seem to fall off all round during school holidays. But most people would say that assuredly we could not. Or can we assert that by improving physical growth and capacity, we are thereby producing additional mental capacity and growth? Most people would answer confidently that we can. The point I want to make here is that the establishment of positive correlation—so much togetherness—gives no ground for believing either that improved mentality produces improved physique, or that improved physique causes improved mentality. London has within itself every variety of school-child, and the poorer schools in many parts of it have shown great advances in the health and material prosperity of their pupils. Notwithstanding this, their mental level, age for age, as measured by sets of my reasoning lists, administered and marked in precisely the same way under my personal supervision, remains constant. Let me take another practical question. It is asserted by medical officers that the inferiority of the eyesight of girls, as compared with boys, is caused by the needlework of the girls, to which the school work of boys offers no precise parallel. And on pressure, the argument is put in the form "Well, what else can it be?" "What else can it be?" means little where a matter of positive causation is concerned. No attempt has been made to show by positive experiment that needlework is the cause of the girls' inferior eyesight; though, by the method of *equal, parallel, and highly correlated groups* of girls, the issue should not be difficult of determination. Their inferior eyesight—there is no doubt about the fact—may be a sex-difference at that age, and be quite unrelated to school practices. It is, of course, sound method to endeavour to find in a variation in environment the cause of a constant difference, but we must not jump to conclusions. Though I have cited a case above which primarily concerns medical officers of health, it must not be thought that educationists are free from similar guess-work. An experienced examiner, a few years ago, in his report on the arithmetical work of girls and boys in the L.C.C. Junior Scholarship Examination, drew attention to the poorer work of the girls; and, since from his experience in mixed schools he had found ("found" has a flavour of research; but, of course, is the wrong word, for he had not looked in any adequate way) no difference between boys and girls in arithmetic when working under the same teachers, he came to the conclusion, and announced it, that girls were taught worse than boys, and admonished the teachers of girls' schools. If he had seen and noted Ballard's figures for boys and girls in rule and problematic sums, it might have given him pause, though he probably would have countered them by his reference to mixed



schools with the same time table and the same teacher for arithmetic for both boys and girls. For, of course, the time-tables and the syllabuses of work for boys and girls are not quite the same, nor is the time given to arithmetical work. One critic said that the girls would be just as proficient if they had not to do needlework—that unfortunate scapegoat for the deficiencies of females. But alas! a big research on the comparative arithmetical attainments of boys and girls in ordinary elementary and central schools, carried out by Mr. George Lilley and a committee, and published by the London County Council, though the conditions under which it was carried out were not altogether such as to produce absolute proof, still established a very strong presumption that the difference is a sex-difference, and should be allowed for, and not complained of, in all examinations. And this brings me by a natural transition to another consideration. It is of little use to subject material even to the most rigorous and careful statistical treatment, if it has not been collected under fair conditions, and by competent researchers. I do *not* exclude experienced teachers if they have worked long enough under competent guidance. As Buckingham has just pointed out in his “Research for Teachers,” and as I have long maintained, if teachers do not take a hand, they cannot complain if the conclusions are unpleasant. They must not only, in my judgment, take a hand, but the researcher must lay his cards on the table, and submit them for inspection till the end of the game. Take a recent issue, not unconnected with questions of immigration. Figures as to the comparative intelligence of Jewish and Christian boys and girls have been held, and rightly held, to show that Christian children are superior in mental capacity. Rightly held, if the figures themselves have been properly collected. The head master of the school, a very large one, from which the Jewish figures were collected (some years ago, I may say), stoutly avers that they were not. Let us leave the issue open for the moment, premising, as we must (for we have not, and cannot have, any mental test which is *quite* uninfluenced by pedagogical practices), that Jewish and Christian children to be compared must be taught by the same teachers, and even a more important consideration still, must be of the same social class. We must not erect a class difference into a racial trait. It is useless to say, let us take *unselected* material and we shall get over all those difficulties. We shall not; for not only natural ability, but economic pressures and social and religious practices produce selection on all sides, and to ignore them is to court failure. To take one very modern instance, are large families more or less intelligent than small ones, it is asked. Speaking of the East End of London alone, I could obtain differing results from the wide social and racial diversities there exhibited. No: let us frankly use *selected* material; we must do so, whether we like it or not; and let us clearly state the basis of our selection. Very serious, indeed fatal, is the neglect to do this in experiments on the **rival** values of school methods. A capable group of children will do better than one less capable by any fairly well accredited method. Methods cannot be estimated apart from equal groups of children and equal teachers. But this doctrine of the need for *equal, parallel, and highly-correlated groups* is accepted now, and I need not elaborate it, though I will give one illustration. Well-born children, i.e., children of good parentage, with good homes, will write fairly good English at any early age;



the typical product of the slum school never will ; yet the teaching of English composition *may* be carried out by a better method and the teachers *may* be better in the slum school than in the school well situated.

But does a consideration of such matters I have discussed constitute a revolution in education, as my words have, here and there, implied ? Frankly, it does ; it does involve a revolution in the way of determining educational needs, educational provision, and educational methods. It will be useless to appeal to old educational authorities, for they cannot tell us what we want to know. In fact, there will be no authorities ; though, doubtless, enterprising text-book writers will continue to be so called. The authority is the science, and any worker, though humble and unknown, who contributes however small a piece of valid work to the general stock of knowledge, is a maker of it. So that if this implies a revolution, it will be a slow one. Very slow, some people say. Perhaps so, but perhaps, not so very slow. As Arthur Hugh Clough says in another connection in the beautiful stanza which I never tire of repeating, and which has solaced many a pioneer :

“ For whilst the tired waves, vainly breaking,  
Seem here no painful inch to gain,  
Far back, through creek and inlet making,  
Comes silent, flooding in, the main.”



## The "Repetition Compulsion" :

SOME OBSERVATIONS ON ROUTINE AND RHYTHM.

By A. G. HUGHES.

THE importance of the natural tendency to repeat what has already been enacted has been emphasized in recent years by two thinkers, but the explanations given by them of this importance are curiously different. To Professor T. P. Nunn\* the "Routine Tendency" is an expression of the will to live, a biological device which enables an organism to progress by achieving mastery over its environment. To Professor Sigmund Freud† the "Repetition Compulsion" is an expression of the will to die, a biological device which impels an organism towards the reinstatement of an earlier condition. In one case it is an expression of life energy : in the other case it is a manifestation of inertia in life. The difference in their views depends upon a difference of opinion as to the fundamental characteristic of life. While Nunn holds that life is continually making for progressive shapeliness, Freud's view is rather that life is but the necessary road to death, to ultimate disintegration. Even the instinct to escape from danger is in Freud's view but a part instinct designed to prevent the organism from reaching its natural goal by a short circuit. The long road to death must be traversed and it involves much repetition under compulsion. Not only is the organism compelled to repeat much of its individual past in the performance of routine actions, but it is compelled by instinctive nature to repeat much of its racial past, enforced alterations in the lives of its ancestors which have been stored up for repetition in the form of play and ritual, to quote two examples. The organism, Freud implies, is by nature doomed to be a creature of routine, tradition, and ritual, and it is only through the agency of external disturbing and distracting influences that any advance is possible. Thus, while Nunn argues that the aim of life is life and abundant life, Freud argues that the aim of life is long-drawn-out death. However, since this death can only be compassed by living, we are not surprised when we find that their practical conclusions are not so violently opposed as at first sight appeared inevitable. Thus Nunn admits that the utility of the routine tendency for the young is distinct from its utility for the old, and Freud makes a passing reference to the joy of repetition in children. But, he proceeds, this characteristic is destined to disappear and soon novelty becomes the necessary condition of enjoyment.

The object of this paper is to argue that the routine tendency has the same characteristics at all ages, and that while it is of immense importance, this importance is of a "critical" nature. In short it is argued that the routine tendency is a matter of life or death and that while therefore both Nunn and Freud may be right in attaching great importance to it, this importance is greater than either of them has suggested.

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\* "Education : its Data and First Principles."

† "Beyond the Pleasure Principle."



The paradox is perhaps made more intelligible by L. P. Jacks,\* who, in his description of the mind of Smokeover, seems to combine Nunn's optimistic view of life with some of the most acceptable ideas in Freud's theory. For him, the Smokeover mind is the product of two opposing forces, one a spiritual force "straining forward in the direction of the New Jerusalem," the other a natural force "pulling backward in the direction of the Bottomless Pit." It is suggested that "the struggle for existence would be better named the struggle against non-existence." Examples of these opposing forces are not hard to find. The social reformer creates model dwellings which the slum souls turn back into a rookery of slums. Artists create beautiful objects which are crowded together to produce the same kind of ugliness in the drawing rooms of the *nouveauroche* as existed in Victorian parlours. Places of beauty are reserved for the public under the National Trust to be littered with waste paper and banana skins on Bank Holidays. The educated self-made man slips back in times of stress and forgets the standard English he has so painfully acquired.

Life may then be likened to a tug-of-war. Holding on to what is, may at times be a very necessary prelude to further advance in the direction of what might be, but it is at the same time dangerous, for it may be but the prelude to retreat. In a similar way routine actions are critical. No one can for long "hold on" in routine fashion without running a grave risk of being overcome by the "pull-towards-the-cemetery." We recognize this in middle age and sometimes take elaborate precautions against the onslaught of old-fogeyism: we shudder at the deadening influence of routine and preach sermons about the dead hand of tradition. Laurence Binyon has stated the same truth in connection with art: "Every living tradition in the arts is always in danger, it must move or become stagnant and decay."† But is not the danger an ever present one? Is all repetition desirable even in the case of children? A child of four months has been observed by the writer to watch the swinging of a pendulum for five minutes with but one momentary turning away of the head, and then the occupation was only terminated by the advent of another person into the room. This may be interpreted as wonderful concentration of attention or it may be regarded as a case of semi-hypnotism. The latter is probably the correct interpretation of what happened after the first few seconds of watching. The easiest course was to continue following the movement to and fro; it would have needed an effort to break away from the routine. Very different was the action of the same child four years later when he watched a clock for seven minutes in an endeavour to find out "what made the tick." Some of the cases of concentrated attention quoted by Montessorians may well come within the category of hypnotic repetition, especially when one considers how the repetition of activities must be influenced by mass suggestion.

Consider next the case of a child who insists on the exact repetition of her favourite story until her parents are bored to death. Why is it that

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\* "Heroes of Smokeover."

† "Tradition and Reaction in Modern Poetry." English Association Pamphlet No. 63.



the child positively enjoys it? Does the repetition compulsion act differently in her case from the way it acts on her parents? There is no need to suppose it does. In the case of the child we may reasonably suppose that each repetition of the story is more than mere repetition. It is accompanied by a feeling of progressive familiarity, a feeling of subjective mastery becoming each time more complete. But it may be objected that when complete mastery is obtained the child will still continue to take delight in repetitions of the story. My observations lead me to doubt this. The story of "The Three Bears" faithfully repeated day after day on the gramophone soon loses its fascination for young children; some will start playing some quite irrelevant game; on one occasion a boy aged three went on with the story in his own way, "and then the three bears came downstairs and began to eat their porridge." Later, it became the story of the *Four* Bears. We see the same reaction against strict routine in children's play activities. As soon as mastery is attained, some new complication is introduced "to make it harder." The same explanation may be given of the periodicity of young children's interests which is a marked feature of their behaviour if they are left free to work out their own impulses. A month of intense interest in number with endless practice in counting is followed by a similar absorption in "reading," and it is only when the memories of counting have somewhat faded that some chance stimulus will re-awaken the number interest. It is argued, therefore, that what appears as love of routine in children is often something quite different; it is love of progress. A routine action necessitates a passive attitude of mind if it is not to lose its quality of "routinefulness." The success of the various devices for inducing sleep depends upon the soporific effect of *pure* repetition: the mentally defective child furnishes clearer examples of real routine actions than the normal child. In a similar way we can understand the permanent fascination of good art. The more we look into it the more we see in it; the oftener we listen to good music the more we hear in it: there is very little danger of pure repetition. It is concluded then that pure repetition is equally deadening for the child as for the adult. A good example (quoted by Charis Barnett in "Common-sense in the Nursery") is given in the story of the child eighteen months old who was such a creature of routine that when her nurse went on her holidays, the child would neither eat nor sleep; the nurse had to be wired for. A striking illustration of the effect of routine is quoted by Fabre in his description of the Pine Processional Caterpillars. These caterpillars always walk, the tip of the nose of each one touching the tip of the tail of the one in front. One day Fabre set a number of them moving in a closed circle round a large flower pot. Though he put a supply of their favourite food, pine needles, close by, they did not turn aside but kept on moving round and round the pot for seven days, getting thinner and thinner and more and more exhausted. And, says Elinor Mordaunt, who quotes the story in her novel, "The Processionals," "heaps of people are just the same."

But it is interesting to note the tendency in modern life to relegate mere repetition to machines. Printing and typing are replacing handwriting: calculating machines are replacing the arithmetician: our railway tickets and postage stamps are issued by automatic machines. The repetitive acts involved in walking are being superseded by mechanical



modes of transport ; we can even go upstairs by standing still on a moving stairway. Many lectures are repeated by means of the microphone or by the gramophone record. We are tempted to ask if the time is not coming when our great men will not deign to talk unless they have something original to say. It is true that all this mechanization has brought in its train new forms of routine, but their deadening nature is keenly realized and much is being done to alleviate it by increasing rest periods, shortening hours of work, and providing means of recreation.

The deadening effect of pure routine on the learning process has been well demonstrated by M. Smith and McDougall,\* who by experiment found that it took about ten times as many repetitions to learn nonsense syllables when a passive attitude was maintained as when an effort to learn was made. The present writer has found that children can learn addition tables with about five times fewer repetitions when playing number games than when learning the same tables by more conventional drill methods even when these drill methods are made as good and varied as possible. As the boundaries of subjects are extended, each generation, starting more or less from scratch, must travel faster along the road of knowledge. There will be less and less time for learning by mechanical repetition, and here is the source of many of the urgent educational problems of to-day. Can we so improve our methods of teaching that children will learn with fewer repetitions? It is largely a question of increasing interest and lessening passivity. " Practice makes perfect " is a dangerous half truth, for so much depends upon the nature of the practice. If it is " lively," perfection is being approached, if it is mere repetition an increasing degree of imperfection may be wrought. Thus the repetition of the Lord's Prayer may lead to an increasingly deep religious experience, or it may degenerate into a meaningless gabble of unintelligible syllables.

One important instance where pure repetition is valuable is in connection with the creation and appreciation of art. A friend of mine tells me that the regular and not too loud rhythmical noise of the tube trains on the Central London Railway induces in him a quasi-hypnotic state. He loses consciousness of the noise and of his physical surroundings, and then his attention is concentrated on imaged music (so far as he can judge, original music), played by a string quartette. This state of mind, induced by the soothing effect of rhythm, seems to be favourable to the creation of art. If this is so and if we accept Croce's doctrine that to appreciate means to re-create, we have a clue to one value of rhythm in poetry. As an experiment let the reader consider the following passages descriptive of the same scene in very similar words :

" There is nothing but sleep under in the corridors. The apples, stiller than ever they were on their boughs, are keeping tryst with the moon and a very deep silence reigns over these wonderful apples lit up by the moon."

" In the corridors under there is nothing but sleep,  
And stiller than ever on orchard boughs they keep  
Tryst with the moon, and deep is the silence, deep  
On moon-washed apples of wonder."

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\* *British Journal of Psychology*. May, 1920.



The rhythm of the verse and the repetition of the sounds (under, wonder ; sleep, keep, deep ; deep, deep ; ) exert an effect on the mind similar to that described in the previous example of tube travel. The mind is so attuned, so sensitized, that the scene and its whole emotional setting, the poet's mood and even his meaning, are re-created to some extent as the verse is read. The rhythmical repetition has produced

" that serene and blessed mood  
In which the affections gently lead us on—  
Until, the breath of this corporeal frame  
And even the motion of our human blood  
Almost suspended, we are laid asleep  
In body, and become a living soul :  
While with an eye made quiet by the power  
Of harmony, and the deep power of joy  
We see into the life of things."

An extreme example of being thus " laid asleep in body " is given by L. P. Jacks\* in his description of the behaviour of Snarley Bob who, on hearing Keats's " Ode to a Nightingale " well recited, fell into something resembling an hypnotic sleep. There are probably great individual differences in this matter due partly to nature and partly to training. We must be prepared to meet the Philistine who will say that the repetition merely hypnotizes you so that such nonsense as that of apples keeping tryst with the moon does not irritate you as it should.

It is suggested, therefore, that the effect of repetition in the rhythm of poetry can still be brought under the general rule suggested in this paper with regard to all routine. It is deadening, soporific, narcotic. But its influence is subtle ; it does not affect the whole of our nature, but, acting " like a curtain separating us from the outside world," it thereby intensifies our attention and sensitizes our mind to the poet's intention, so that, as Sir Philip Hartog† has pointed out, we are forgetful of all else, and " not passive like inanimate clay beneath the potter's hand, not half asleep like the patient under the control of the hypnotist, but living, receptive and active, responsive as only life can respond to life we glow with the emotion, the desire, the will to act, by which the poet was himself inspired." Although Hartog's conclusions are thus in close accordance with those of the writer, he would not agree with the theory put forward. " It appears to me," he says, " that Coleridge is right in regarding metre in poetry as a stimulus to the attention, and that Bergson, Souriau, and Mr. Murry are in error in so far as they regard it as a narcotic. They seem to assume that, because what I will call a large dose of rhythm has a narcotic effect, a small dose has necessarily the same psychological and physiological effect. I suggest that it has the opposite effect, that it increases sensibility. We know that with some persons a small dose of opium, so far from being a narcotic, produces extreme irritability and excitement." The analogy of opium is not convincing and the distinction between large and small doses of rhythm lacks precision, for it might well

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\* " Mad Shepherds."

† " On the Relation of Poetry to Verse." English Association Pamphlet No. 64.

This pamphlet contains a very interesting review and discussion of the theories of rhythm in poetry put forward by poets, critics, and psychologists.



be argued that poetry gives large doses of rhythm. However that may be, we can still maintain our theory of the narcotic tendency of rhythm, even if given in small doses, and at the same time agree with Coleridge that rhythm in poetry is a stimulus to the attention. This stimulating effect is, as I have suggested, a negative, not a positive result. Attention is intensified by distractions being shut out and so far as rhythm is pure repetition this is its function. The positive stimuli to attention are given by variations in rhythm, by departures from routine, so that as Mr. Middleton Murry\* says "The poet's business is to take advantage of the tendency" (which rhythm has to send us to sleep), "and instead of letting it reach its logical physical conclusion, by an infinite rhythmical variation on the metrical basis, to keep us intensely aware."† And not only by variations in the rhythm, for the positive stimuli to attention are many. The flashes of illumination into the poet's meaning, the new light which he throws on familiar scenes and thoughts, the sympathetic sharing of his moods and of the variations in kind and intensity of his emotions, the startling and yet satisfying effect of the poet's departures from routine usage of familiar words—all these combine to keep us intensely alive, and in none of them is there any suspicion of routine.

It is argued, therefore, that there is a danger in unduly exalting the routine tendency. It is certainly important, but often its importance is due to the fact that it ought to be shunned like the plague. When repetitive actions are most obviously desirable they are joyful and spontaneous, that is to say, they are not really routine but play actions. There is in them some element of progress, or at least their performance is accompanied by a feeling that progress is being achieved. This progress may at times be so slow that the activities approximate to mere repetition, but to the young child the progress, though slow, is appreciable, and herein lies the explanation of the joy which is expressed by children in activities which we adults wrongly call repetitive. In other cases where repetition is apparently enjoyed, the repetition is not the main ingredient in the activity but only an accompaniment which heightens the pleasurable effect of its creative part. Examples of this are found in appreciation of art and in many children's games in which the incessant chanting of nonsense syllables is an integral part. And even in the last two examples the rhythm and the repetition are generally modified by an infinite number of subtle variations. The same line of argument is necessary to explain the fact revealed by industrial psychologists that repetitive activities are not found boring by all factory workers. Some doubtless welcome a routine life because of the opportunities it affords for day-dreaming: some, because it leaves them free for more vigorous forms of mental activity. As Bartle Massey says: "A man that had got his heart in learning figures would make sums for himself and work 'em in his head: when he sat at his shoe-making, he'd count his stitches by fives and then put a price on his stitches, say half a farthing and then see how much

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\* "The Problem of Style." Quoted by Sir Philip Hartog, *op. cit.*

† The function of rhythm and the value of repetition in the creation and appreciation of pictures, music, sculpture, design, and architecture, are obviously matters of great importance. They appear to the writer to fall into line with the general theory here put forward. These subjects are, however, too wide to be adequately discussed in this paper.



money he could get in an hour . . . and all the while his needle would be going just as fast as if he left his head empty for the devil to dance in." This type of repetition is not an expression of the will to live, nor is it necessarily an expression of the will to die. It is in the no-man's-land between life and death, and the life energy of the factory worker, no longer able to find expression through the activities of the common round, finds an outlet in day-dreaming to the soothing accompaniment of the regular routine. The same story could doubtless be told concerning much of the repetition which we are told that children enjoy in school.

We will admit that there may be times when it is advisable for us all to be steadied by the ballast of tradition, to be slowed down by the restraining influence of routine and ritual. It is not good for us always to live in the highly oxygenated atmosphere of energetic restlessness ; hence the modern and natural tendency to seek relaxation in the strong rhythm of one-steps and fox-trots, and the decline in popularity of figure dances, necessitating as they did some slight degree of intellectual effort. It may be that on the average and in the long run, Nature regulates the amount of repetition in life as she regulates the amount of carbon dioxide in the atmosphere and in the lungs. But the fact remains that purely routine actions at any age are indicators of the predominance of the " death instinct " over the " life instinct." In old age this predominance is often the normal state of affairs ; in healthy childhood it should be looked upon as abnormal, a danger signal warning teachers and parents that something is wrong with the child's environment.



## Some Thoughts on the Training of Character.

BY H. BOMPAS SMITH.

It is a commonplace that the school should train character in the sense of moral character, but I wish in this article to raise the question of character training in a wider form. I shall assume that a typical mental activity or process aims at the achievement of some interest. For instance, if I speak to my friend the mental and bodily activity involved is inspired by my interest in telling him something I feel it is worth while for him to know. If I succeed, so far as in me lies, in making my friend understand, then I achieve the interest which prompted my activity. In a case like this my interest will as a rule be easy to achieve, but we all have interests which can be achieved only with great difficulty. I may find it very hard to achieve my interest in speaking the truth, or in getting my way at a meeting, or in solving some mathematical problem. My success in achieving my most important interests, or any special type of interest, will in the long run depend upon the kind of person that I am. Some people seem to have a gift of succeeding where others fail, and the power to achieve interests is perhaps the most valuable quality we can possess and the real test of the quality of our mental life. Following Professor W. Mitchell, I shall speak of this power as our character. "Character," he says, "is the ability to achieve an interest."\*

The question I wish to consider is how far our schools can and ought to train character in this wide sense. More precisely, ought they not deliberately to endeavour as occasion offers to increase the boys' ability to achieve their interests, whatever those interests may be.

The training I have in mind is not, except indirectly, moral or religious. We do not say to the boys: "This is how you may grow better," but "By doing so and so it is possible to become more able to do this or that." "It may be interesting to try this or that experiment on yourselves." On the other hand, if such training can be effectively given, very important results will be attained. The old methods of self-discipline, both ethical and religious, have tended to fall into abeyance, and it is highly desirable that they should be revised in forms more appropriate to our day, or else that their place should be taken by other methods. The training of character we are considering is on a definitely lower level than that for instance carried on by the Churches, but it may form a basis for a habit of self-discipline inspired by higher motives. It is also of great value in itself.†

I cannot attempt to suggest the detailed methods by which a school can help its boys to train their characters. My object is simply to call attention to a problem of importance, which good schools solve to some extent by incidental means, but which appears to call for more deliberate and systematic treatment. To show the nature of the problem I shall take

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\* "Structure and Growth of Mind," pp. xxix and 380.

† Its importance is emphasized by Dr. Graham Wallas in his "Great Society" and "Our Social Heritage," from which I have freely borrowed.



two specific aspects of it, and shall consider some possible ways of inculcating a habit of prompt action when once a decision has been made, and of encouraging creative thought.

One difficulty which the schools should help its boys to overcome is known to all of us by personal experience. We feel that something is worth doing and yet we fail to do it.\* The reason is that our sense of the value of the end to be achieved is what Dr. Whitehead calls an inert idea,† that is an idea which has not been incorporated in our central system of interests. Thus, suppose I want to get up early to do some piece of work. Unless my wish has behind it a strong body of interests, centring, for instance, on the importance of the work, I shall either not wake or be unable to resist the attractions of my bed. If on the other hand my mind is filled with the idea of the work and the necessity of doing it, I shall get up almost without conscious effort. My interest will evoke all the activities needful for its achievement. If my interest is less absorbing, I may get up only after a mental struggle and with felt reluctance. Competing interests, such as that in rest and warmth, will make getting up more difficult.‡

Our power to act freely thus depends upon our absorption in our interest in our chosen end. In other words the interest must be an activity of our whole minds. The question is how can we increase our power of concentrating on such an interest. We concentrate most completely when our attitude is that of faith. For faith means that we feel ourselves confronted by some end or object in comparison with which other things are of no account. The most effective people are those who live in the light and strength of ultimate ideals. Such heights, however, are not attained by all nor without long preparation. But we can make some progress in the right direction by forming a habit of ready obedience to the claims of any end we recognize as good. We may, that is, train ourselves to act promptly, without giving time for competing interests to develop, when once the right path is clear.§

We can build up in our minds an almost automatic connection between the resolution to do something and the actual doing of it\*\*. The actual doing will then look after itself. "I do not 'make' the deed, even if I have already willed it—the deed is there."††

William James advises us to practise this connecting of resolve and action for its own sake in deliberate defiance of competing interests.‡‡ "Do every day or two something for no other reason than that you would rather not do it." But whether we accept his advice or not, there can be no doubt that a habit of fixing our minds upon the end which we have recognized as the right one, and of letting ourselves act in accordance with

\* The classical statement of the problem and of its solution is that of St. Paul's Epistle to the Romans, Chaps. 7 and 8, but I am here discussing it on a lower level.

† "The Organization of Thought," 1917, p. 4 f.

‡ See the well-known passage in W. James: "Principles of Psychology," Vol. II, p. 524.

§ Of course there may be a long period of previous consideration, but with this point we are not here concerned.

\*\* See H. Driesch: "Die Logik als Aufgabe," Tübingen, 1913; p. 88.

E. Meumann: "Intelligenz und Wille," Leipzig, 1908; p. 201 f.

†† Driesch, *op. cit.*, p. 82.

‡‡ See his classical chapter on Habit. "Principles of Psychology," Chap. IV.



our interests in it, enables us to achieve our interests more readily and effectively than we should otherwise have the power to do.

One of the most frequent reasons for our failure to achieve an interest is that we do not feel sure of our power to do what we desire. We let our minds dwell on difficulties or dangers and our absorption in the end to be attained is thus disturbed.

For example, we are told that in golf "bad shots are due to loss of mind control," and "difficulties become all the worse because the majority of players cannot get them out of their minds. The average golfer reduces himself to a kind of "doubting Thomas," lacking belief in himself. When putting it is fatal to think: Will the ball go in? Instead of that it must be: This is going in.\* This is the well-known doctrine of M. Coué and his disciples, and there is little doubt that the principle is a true one, however much we may differ from M. Coué's statement and applications of it. To quote a psychologist of a different school: "Deprive the will of confidence in its power, and you make the will cease to be.† An example of the paralysing effect of fixing our minds on difficulties is given by M. Charles Badouin.‡ When we are learning to ride a bicycle, "should we see a big stone lying in the middle of the road, we know that all our attempts to avoid it serve only to direct our steering wheel towards the obstacle—our desperate tugs at the handlebar avail us nothing. The stone has attracted our attention, our emotions are aroused, suggestion is at work, and our efforts to counteract it serve merely to reinforce it."

Most of us are probably less efficient and less freely active than we might be because we think too much of the difficulties which confront us. If we could only give our whole minds to achieving our interests, our success would probably surprise ourselves and others. In many cases it is timidity or fear which is the cause of failure.§ In other cases doubts which we thought were overcome return to weaken our resolve. Or, again, our experience of the results of overhasty action may make us hesitate at the crucial moment. It is necessary to distinguish carefully between the preliminary process of making up our minds, which may be short or long, and the execution of our decision with which alone we are here concerned. To confuse the two will lead to half-hearted action.

If we accept this general view of the conditions under which a boy achieves an interest, it is clear that the school can help him by leading him to form the habit of acting promptly when he has come to a decision. With this end in view it must encourage him to have confidence in his power to do what he feels to be important. The school will give this help partly in the course of its ordinary life and teaching, but partly, as we here suggest, by deliberate instruction which will lead the boys to take an interest in training their own minds. Experience shows that such an interest is not difficult to arouse, and may be a thoroughly healthy one, without any sign of objectionable self-consciousness.\*\* Dr. Graham Wallas suggests that in

\* From a review of Schon: "The Psychology of Golf," in the *Manchester Guardian*, Sept. 12th, 1922.

† From Rehmke: "Willensfreiheit," p. 8. Quoted by H. Driesch, *op. cit.*, p. 86.

‡ "Suggestion and Auto-suggestion. *Eng. Tr.*, 1920; p. 116.

§ On the paralysing effects of fear, see W. H. R. Rivers: "Instinct and the Unconscious," 1920; p. 56 ff.

\*\* Dr. Graham Wallas: "Our Social Heritage," p. 49, gives an account of one such experiment.



order effectively to cope with the rapidly increasing number of secondary and university students, "the teacher should substitute organized class instruction in the psychological technique of intellectual work for unorganized individual hints." He adds: "We should not leave instruction in mental attitudes and methods either to accident or to the Pelman Institute, and other commercial firms. If students were taught as a body to recognize the form taken in consciousness by intellectual effort, the direction of that effort by such expedients as class-lessons, questioning, examinations, or the 'looking over' of written compositions, would be made infinitely more effective." There appears to be no sufficient reason for confining the type of instruction here suggested to the technique of learning. It might be made to cover all fields of mental activity, so as to include, for instance, practical efficiency in daily life.

We may now go on to consider how the suggestions we have made apply to the encouragement of creative thought. The possibility of applying them in the boy's moral and religious training is a still more vital question; but we must confine ourselves to the intellectual side of character.

It is sometimes said that the schools are more successful in raising the general level of intelligence than in fostering originality of thought and outlook. Whether this statement is true or not, there can be no doubt that schools will not render their full service to the nation unless they develop their boys' and girls' capacities for creative thought, that is for thinking which leads to definitely new results. We badly need an increase in the amount and quality of the creative thinking going on amongst us. "As the scale of social organization extends, the merely instinctive guidance of fear, or love, or pleasure, or habit, becomes more and more unsafe; not only is a clearer consciousness of his acts and a stronger habit of forecasting their result needed by the ordinary man, but thought in the great sense, the long-continued concentration of the professed thinker in which new knowledge is made available for the guidance of human life, is required as it has never been required before."\*

Strictly speaking all thinking is to some extent creative, since it results in a new whole of thought, but we are concerned only with cases in which the advance thus made is very marked. Thus the perhaps apocryphal story of Newton and the falling apple gives us a classical example of creative thought. He perceived by a flash of insight that the movements of the moon and planets are effects of the same force as that which makes an apple fall. He thus connected phenomena not hitherto regarded as related to each other.† Creative thought need not, however, result in a totally new discovery. The insight it gives may be new only to the thinker, and even boys at school may think creatively. A class is not thinking creatively in our sense when it painfully follows step by step the master's demonstration that the exterior angle of a triangle is equal

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\* Graham Wallas: "The Great Society," p. 191. Those interested in the improvement of our thinking are strongly advised to read the relevant chapters in this book and in Dr. Wallas's later work "Our Social Heritage." His latest book, "The Art of Thought," contains a more systematic discussion of the whole question, but is less incisive.

† For other examples see E. Rignano: "Psychologie des Raisonnement," Paris, 1920; p. 365 f.



to the sum of the two interior opposite angles. The boys may follow each step in the reasoning and yet fail to grasp it as a whole. But if a boy draws the figure for differently shaped triangles, measures the angles, and sees how they answer to each other, the necessary and curious truth of the proposition may become clear to him, and then the proof will be simply the statement in formal language of his creative thought.

Like other powers, that of creative thinking grows by practice, though it is a power possessed by individual people in very varying degrees. It may be tentatively suggested that it can be achieved only when we are, or have been, absorbed in the subject about which we think. The absence of distracting interests is, therefore, a condition of creative thinking. Solitude and quiet are not essential, but make such thinking easier. "Perhaps," says Dr. Graham Wallas,\* "when we know more exactly than we do now the history of the beginnings of European civilization, we shall be able to trace the slow shifting of the external conditions most favourable to thought from the climate of the Southern Mediterranean to that of North-West Europe. At first men seem to have thought most successfully in the open air, during the cool hours which follow sunset in a hot climate, when they could escape from the noise of children and dogs in the crowded cave or tent. Thousands of years later, and a little further north, permanent shaded places, temple porticoes or still later the Academe or the Stoa, were built and kept quiet—then came the monastery cell of North Europe, dry and quiet, but in winter abominably cold."

But the absence of external distraction is only the negative side of the conditions for creative thinking. Our mind's activity is most effective when we feel the sense of well-being which comes from good health, freedom from fatigue, and harmony with our surroundings. Even more necessary is confidence in our own power and an attitude of courage and adventure.

Thus M. Rignano tells us that when a nation's spirit is at its highest, it inspires its thinkers with confidence and courage to seek for new discoveries and to believe in the discoveries they make, and that such confidence and courage would not have been felt in periods of national despondency. "Thus the great new principles, the great hypotheses or novel theories, which have been the milestones on the road of scientific progress, have most often been discovered and spread abroad in countries which at the moment were at the zenith of their history."†

But while the school can to some extent provide the conditions favourable to creative thinking, it cannot help the boys to think creatively at will, or at any rate it can do so only within narrow limits. For perhaps the most striking characteristic of creative thinking is that we cannot think creatively by simply trying to do so. The flash of insight which shows us what we may have long sought in vain comes like a sudden inspiration from we know not where. Most of us have had experience of this fact in our own small way, and great thinkers tell us that it has been the same with them. Thus M. Rignano quotes the description given by

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\* "The Great Society," p. 192.

† *Op. cit.*, p. 388.



Helmholtz, of his own thinking.\* "Happy ideas come unexpectedly, without effort, like an inspiration. So far as I am concerned, they have never come to me when my mind was tired nor when I was at my desk." The previous investigation of the problem "from all sides" was, however, necessary; but the rest which followed was not less necessary, often the illuminating ideas came to him in the morning, after a night's rest. "They came with special readiness when I was gently climbing wooded hills under a bright sun."

It would seem that during the necessary grappling with the problem by strenuous intellectual effort the mind is distracted by difficulties and by the task of mastering details, and so cannot freely grasp the situation as a whole.† When, however, the needful background has been created, a period of rest may produce a state of mental calm in which interest in the problem as a whole can have free play. In some cases a casual suggestion from some unexpected quarter may act like the pressed trigger that fires the gun.‡

In some cases, however, the essential concentration on the whole problem is brought about by the stress of some emergency which dominates the mind. Thus some boys can do extraordinarily good work in an examination or in an essay written at the last moment. We see the same ability in great leaders of men who in a complicated crisis, such as that which confronts a general in a battle, can, as it were intuitively, take without hesitation the course which afterwards proves the right one. The thoughts which come under such conditions may be less original and far-reaching than those of which we spoke before, but they represent a valuable type of creative thinking.

Of these and other characteristics of creative thought the schools ought to take account. What methods a study of the question will lead them to adopt I cannot here discuss.§ My purpose is to call attention to a problem rather than to outline its solution. Our discussion has been confessedly speculative and provisional, to be corrected in the light of fuller knowledge. The direct training of character is, however, a field of wide possibilities. Good schools are showing us something of what can be accomplished, but the field as a whole has not as yet been systematically explored.

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\* *Op. cit.*, p. 365. See also on M. Poincaré, p. 364, and Graham Wallas on Wagner and Dickens, *The Great Society*, p. 190.

† Compare Baudouin's discussion of Coué's formula "When the will and the imagination are at war, the imagination invariably gains the day." "Suggestion and Auto-suggestion," p. 121 ff.

‡ See the full discussion in O. Selz; *Zur Psychologie des produktiven Denkens*, p. 549 ff. For the reason why the thought that comes is unexpected see W. Mitchell: "Structure and Growth of Mind," p. 354 ff; and compare B. Bosanquet: "The Principle of Individuality and Value," Chap. IX.

§ For some suggestions see Kenneth Richmond: "Education for Liberty," 1918.



## Pestalozzi : A Chapter of Remembrance.

BY H. ALEXANDER CLAY.

A HUNDRED years will soon have passed since Johann Heinrich Pestalozzi was laid to rest, aged, poor, unsuccessful as the world deems success, yet revered : a prophet barely articulate, yet a regenerator of the world.

It is not the purpose of this paper to set out ordered details of his life and teachings. Students of education are acquainted with them perforce. It is rather desired that it should be a chaplet of remembrance for those, if any, who still like to think of him with that warm love felt for him by his followers in his own lifetime.

It will, however, be well for a better understanding of these fragmentary remarks to recall briefly the chief periods into which his activities fell. Born in 1746, brought up in severe poverty, he was early kindled by the idea of social service : " We are a rabble," he exclaimed of his own folk. From 1770 to 1780 he was, with his wife, at Neuhof engaged in the enterprise of training destitute children, and from 1781 to 1787 appeared his " Lienhard und Gertrud." The institution failed. In 1798 was his short but memorable stay at Stans, acting as father to the children rendered homeless by the invasion of the French. From 1799 to 1804 he was teaching at Burgdorf, and from 1804 to 1825 at Yverdon. At both these places the eyes of Europe were upon him. Even those who saw clearly his lack of practicality and of leadership were inspired by his tireless enthusiasm and restless, selfless energy. Monarchs and statesmen saw in his experiments and principles hope and guidance for their own countries shattered by the Napoleonic wars.

In his childhood he himself said there was nothing to give him sensible and instructive occupation :

" I grew up as spoiled a child as one can well imagine. I never stirred, as they say, from stove or fireside. Everything that could aid as a stimulus to the unfolding of manly strength, experience, and way of thinking, failed me in proportion as I needed them, owing to my weaknesses and peculiarities. In all games I was the most clumsy and helpless of all my schoolfellows, and yet in some way I had the ambition to be more than they. One of the boys nicknamed me Heiri Wunderli of Thorlikon (Harry, the Gaper of Simpletown) : yet most of them liked my good nature. As I did not live in the world of reality I entered another and was the happier that I was of no account in the former."

" Even Bodmer,\* my hero and father, knew nothing of the business of active life, although he revealed to us the spirit of the ancient world. He imparted to the youth of his day no strength to meet the life of the world of reality."

As soon as Rousseau's " Emile " appeared

" My unpractical dreamy nature was carried away by enthusiasm for this extraordinarily unpractical book of dreams."

Often when he went to service in the Fraumünster he and his friend had a volume of Rousseau with them.

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\*The Swiss critic and champion of the Romantic movement in German literature.



Anna Schulthess, to whom he was engaged at the early age of twenty-one, was of well-to-do parents. His lack of prospects, his untidy and eccentric appearance, his pockmarked face, were not in his favour with them, but she recognized the nobility of his character. He was no ordinary lover who wrote "a great and honest simplicity shall reign in my house."

At Neuhof, their first home, he wrote of one of the children he was educating :

"Eight years old, weak-minded, delicate ; but people should know that even really weak-minded children, who are generally sacrificed by harsh treatment to the madhouse, may be trained by affectionate guidance to suitable, simple employment, and delivered from the misery of a confined existence."

About this time when he had lost almost all his capital in his undertaking, he would often, when others went to their meals, go into the fields, take dry bread from his pocket and drink water from the stream. "I suffered what the people suffered."

He learned from his contact with the poorest of the poor that the people believe only in those who know them and all that pertains to them, and that they believe that no one cares for them but those who hold out to them a helping hand.

His friend Iselin of Basel encouraged him to write. At this time when things were at their worst, there entered his service the faithful serving-maid, Lisabeth Näf, immortalized as the heroine of his "Lienhard und Gertrud," a "Dorf-roman" entirely new of its kind, which immediately became celebrated. In her hour of deepest trouble the heroic Queen Luise of Prussia, wrote :

"I am reading a book for the people by Pestalozzi. How he loves them . . . in the name of mankind I thank him."

Herder wrote in a review :

"It is provincial, but every reader would wish he had such a book for the province in which he lived."

Fichte, too, in his "Speeches to the German Nation," spoke with insight of his inner difficulties of lack of scholarship, but of his unconquerable love for the poor and destitute.

Of Gertrud herself Pestalozzi wrote :

"The sun that goes its way from morn to eve, the great mother that broods over the earth, is the symbol of Gertrud and of every woman who makes her home a sanctuary of God and serves heaven before husband and children."

And again :

"Think what sway a wife has over her husband who sees in the meals she cooks and the stockings she knits, that even when she is knitting and cooking he is never out of her mind."

The old friendship between Pestalozzi and Lavater, the Zürich pastor and physiognomist, was critical on either side. Lavater deplored Pestalozzi's neglect of externals : Pestalozzi was vexed by Lavater's insistence on form. He felt that he was not so greatly in earnest as would appear : he even wrote to him that he never exercised his psychology and politics so favourably for the poor and so unfavourably for the rich as did his Master Jesus Christ. Lavater spoke of Pestalozzi's unpracticality, and his crude, unpleasing appearance which could not, however, conceal



his qualities : in some hexameters given to Pestalozzi after his death he thanks him as " swift to attempt that which before thee none attempted."

When in the winter of 1798 Pestalozzi was put in charge of the orphan children at Stans, many thought that at the age of fifty-one he was undertaking too much. He himself told his wife that if he had been hitherto misjudged, now or never would be shown : " I cannot bear your perpetual unbelief." The conditions in Stans were hard in the extreme. The children were in rags, many of them covered with vermin, almost skeletons, suspicious, deceitful, or numbed with fear. He was in their midst alone from morning till night : he slept in their midst : for everything they depended on him : " A man who has to be patient as a teacher is a poor devil ; he must have love and joy." He created some kind of order and family affection. When for military reasons he had to leave, he felt bitterly that folks said to his face that it was foolish to think that because a man had written something sensible at thirty, he could do something sensible at fifty.

At Burgdorf Pestalozzi had become a European celebrity. We have many accounts of his remarkable personality and habits. He was negligently dressed, his hair unkempt : he was extraordinarily ugly, yet one had only to look into his wonderful eyes to feel at once a regard and affection for him. He could not write or spell correctly. Fichte mentions his want of clarity : Pestalozzi himself refers to his difficulty in self-expression. When he felt the impulse he would work all night, or he went to bed dressed as he was, and dictated ; the thoughts were put down direct : then the manuscript was read through and a fresh dictation given, until at length he was satisfied. He seldom wrote himself. He never read a book. He was unable to teach properly in any subject. For detailed teaching he was useless, but he had a vision for the whole and the power of kindling thoughtful men to work according to his ideas. He himself said :

" I cannot say that I have created what you see : Niederer, Krüsi, Schmid, and the others would rightly ridicule me if I said I was their master. I cannot calculate, I cannot write, I do not understand grammar, mathematics, science . . . I am only the quickener of the establishment ; others must bring forth what I think."

Karl Ritter, the geographer, added, this was true and yet the whole work would not exist without him : he had sacrificed his whole fortune and did not even yet know the value of money, helped everyone and gave everything away like a child. Though he spoke no language correctly, yet he was the soul of the company in jest and earnest. He was the soul, too, of his large household ; he loved all as though they were his children : to everyone he was " Father."

In conversation he was assertive but without malice. He enjoyed banter as an occasion for the exercise of his wit and repartee. He had no ear for music, no eye for art, and no appreciation of poetry. He was as inartistic as he looked. Even his walk was extraordinary : it was a hasty shamble.

For all his loveableness and self-sacrificingness, he was subjected to mean attacks on his establishment :

" Well," he wrote to Muralt, " it is at least an honour to survive as a ruin : there are houses and people who never even become ruins. . . . I have never had a waggon that could claim perfection, but



I have got fairly far, and to-day I would not exchange mine for the finest coach in the world. I feel as though I had sometimes seen an angel sitting on my old jade and helping my waggon out of the mud."

It was a sorrow to him that some of the worst attacks came from his native town of Zürich. Some of his own assistants turned against him : for he was, alas, unable to control them all. Niederer inveighed against him violently in a Whitsun sermon. Yet Pestalozzi was humble-minded, as we have just seen. In his New Year's address in 1817 he asked how the dream had come into his soul which demanded a strength out of all proportion to what he had—and answered :

" Friends and brothers, it sprang from a love which, imperfect in itself, hoped all things, believed all things that it desired, and endured also all things that it must."

In the last year of his life there was a further attack in print that spurred him, aged and almost blind as he was, to write a defence : he determined to live six weeks to finish it. He could hardly sleep : he would get up to write, and become so lost that he often forgot to put the quill into the ink but wrote on. His faithful attendant stood by him and when he saw there was no more ink he could call out " dip." In the last weeks his sight was so far gone that the paper would be blank for whole passages where he thought he had written.

One of his last public appearances was his visit to the country school at Beuggen. As the children sang to welcome him, his eyes filled with tears. He refused the oak wreath they offered him : " Not to me the wreath is due, but to innocence," and his voice broke as they sang the verse of Goethe from " Lienhard und Gertrud " so fitting for his weary old age, " Der du von Himmel bist . . . Süsster Friede, komm, ach, komm in meine Brust." (Thou who art from heaven, sweet Peace, come into my breast.)

On the 17th February, 1827, he was carried in the snow to the churchyard of Birr, with the children of the village in the front and the boys' school of Brugg behind, singing hymns, while over his grave the teachers of the district sang their farewell. His inscription names him : " Saviour of the poor, prophet of the people, father of the orphans, founder of the new folk-school, teacher of mankind, man, Christian, and citizen ;" and who that knows his life and works shall say that he is over-praised ?

A member of the Government of Aargau ironically named him the " Quixote of Humanity," and it is a true comparison. Single-hearted, saintly, and yet ludicrous was Pestalozzi. It is the element of the ludicrous or naïve that partly wins our sympathies for him. In an age of æsthetics and ideals he was a social reformer, and, moreover, a practising one. He loved mankind, but he saw that one can only serve mankind by serving one's neighbour.

Saint Francis of Assisi chose poverty as bringing him close to Christ. Not less deliberately Pestalozzi resolved to be poor in order to help the poor :

" O Love eternal, why  
Am I a fool for Thee ? "

For fear lest we be thought mystical and therefore foolish, let us quote from Emerson : " The mass of men worry themselves into nameless graves : here and there a great soul forgets himself into immortality."



## Portrait Studies of Some Exceptional Children.

By EVE MACAULAY.

THE following notes on a few children who have, for some reason or another, attracted my attention during the past two years, do not pretend to be exhaustive ; neither have they reference to any general theory of child study. Each child was considered solely on account of his or her especial characteristics, and not in relation to any other child. Of some of the cases I was able to gain a fairly intimate knowledge : for instance the two "troublesome" girls have been under my observation for a period of nearly eighteen months, and I have been able to obtain accurate information about their home circumstances, and have witnessed personally, many aspects of their behaviour in school. I have also had many opportunities of talking to Mary S——, the girl who created a number of imaginary companions, and have heard much of her early history from her relatives. The tutor of Roland D—— was most helpful in finding out any information which I sought about the boy, and himself gave various tests which were suggested in the hopes that they would throw some light on his unconscious attitude to life. I am also indebted to Miss Raymont and Miss Wensley, two students, who first drew my attention to the two "only" children and Leslie T——, about whom they gave me accurate and valuable information, gathered during a period of school practice, under my supervision.

I have presented all the cases in pairs. The first three pairs show similar behaviour on the part of each child, though the general circumstances which promoted this behaviour differed in many essentials. The final study of two only children demonstrates the effect of judicious and injudicious treatment by the parents.

### IMAGINARY COMPANIONS.

Peggy B—— was four years old before her mother had a second child—a girl, of whom Peggy is supposed to be very fond. She certainly pays the infant much attention, and is particularly concerned whenever it cries, hastening to wipe the tears away and to pat it as she has seen the mother do. These ministrations are always very vigorously performed, and it is noticed that the baby cries more loudly under them : on one occasion she managed to inflict a long scratch, apparently quite by accident, on its face. On another occasion, when the younger child was beginning to crawl, the mother gave it a short start across the nursery floor and told Peggy to crawl after her sister and see if she could "beat her." She quickly reached the child, gave her a hearty slap, and appeared genuinely surprised when her mother scolded her and explained what she had really meant.

On the whole, however, she treats the child very well ; and probably gives vent to her jealousy in the most severe handling of an imaginary companion called May Mice, who appeared when the baby was about four months old.

This creature seems to be five or six inches in height, and is entirely subject to Peggy's will : she continually beats it, puts it to bed or in the corner, and speaks to it in the most vicious way, being particularly



severe with it when her mother is feeding or playing with the baby. Recently, when the younger child had been crying for some time, and had been with difficulty soothed by the mother, Peggy was observed to rate May Mice soundly for several moments, after which she picked her up and threw her into the fire. Shortly after this another imaginary companion was created, a boy cousin of May Mice, who was christened Ted Ratney. He also was harshly handled, but only for a few days, at the end of which he disappeared again, and has not been heard of since. (It would be interesting to know if his brief existence was the outcome of an enquiry as to whether Peggy would not like to have a little brother ; but I have not been able to ascertain whether this was ever suggested to her.)

Both companions are obviously outlets for the jealousy felt on account of the younger sister, and of which the unconscious will only permit direct expression when the baby can be injured by accident or misunderstanding, as in the two incidents cited. The names alone point strongly to this interpretation of their existence. Freud\* has observed that, in the dreams of children, small animals, particularly vermin, symbolize troublesome brothers and sisters. Peggy seems to have evolved the names May Mice and Ted Ratney entirely from her own imagination, her mother being certain that she has never met either in real life.

A totally different type of companion was created by Mary S——, now in her late adolescence. This child having, at the age of three, lost her mother to whom she was devoted, and from whom she was inseparable, was brought up by her grandmother in a large family of adults. Here any demonstration of affection—whether to human beings or to animals—was sternly repressed, and the child was generally subjected to a kindly but very firm discipline. It was frequently impressed upon her that she must be tidy, punctual, and very quiet ; while two aunts, who were teachers and attended lectures on child study, used to talk over the theories they had imbibed, in Mary's presence, and attempted to put them into practice upon her. The atmosphere of the house was highly religious, so that, though the child was not taught in general terms that she was a " sinner," she was impressed with the idea that she must pray for forgiveness when she had " done wrong," and her small faults were rather seriously discussed with and before her. She had not been accustomed to child society while her mother was alive, and though plenty was provided for her in her new surroundings, she always refused to have any intercourse with the children who came to the house. However, after eighteen months of this life, during which she devoted herself to a number of dolls, she suddenly created six imaginary companions, named after various nursery rhyme characters, to whom she referred as " my children." Her attitude to them was one of worried responsibility : they were unpunctual, untidy, and noisy ; and Mary appeared so intensely troubled by these " faults " that her relations became quite anxious at the effect they were having on her. She scolded them constantly, besought them to be " good," and apparently tried ceaselessly, but in vain, to reform them.

These imaginary companions seem to have been projections of the child's self, and not victims at whose expense she compensated herself

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\* Introductory Lectures on Psycho-Analysis. Lecture 10, p. 128.



for the strictness of her own up-bringing. Her conscious opinion of herself must have been that she was a "naughty girl" who should try to be "better," and this was the tone which she adopted with her "children," for she admonished and exhorted them rather than passed on the scoldings that she herself received.

When she was five and a half years old this phase was gradually replaced by something more in the nature of day dreaming, as she developed secret passions for certain people whom she met from time to time. She never approached these people with any sign of affection or made attempts to attract their attention, but she used to pretend that they were playing with her, and held long conversations with them when she thought she was free from observation. She was so secretive that it was difficult to find out what was her precise attitude to them, but this at least was certain—it bore no resemblance to her relations with her "children." On the whole she seemed to tell her new companions many of her childish difficulties and aspirations, and to lavish much affection and many caresses upon them.

As she grew older all outward signs of living in a phantasy world disappeared, but it is probable that she is still continuing to do this. Her adolescence is marked by an intense aversion to making friends or to showing any emotion. She will not take responsibility, and her attitude to herself is—to quote her own words—that she is "no good at anything."

Certainly her two sets of companions speak very plainly of the repressions of her early childhood. The hopelessly naughty "children" are the child's way of saying that she is "no good": the later phantasy companions received the affection which she was not permitted to bestow elsewhere, and which she now appears to be incapable of giving to anyone.

## TWO "TROUBLESOME" CHILDREN.

Dorothy F—— left the infant school for the primary at the age of seven. Her teacher in St. 1, a most sympathetic woman, has given her first impressions of the child in the following words. "She seemed to me one of the naughtiest children I had met in my twenty years of teaching experience. At first, whenever she stayed away from school, I felt as if I had had a holiday."

The family history of the child is—briefly summed up—this. She was born, an illegitimate child, when her mother was just fifteen. The father was a man then living with the girl's mother. This woman consented to keep both her daughter and the child, Dorothy, on condition that the man left the house: this he did for a time, but he still returns at intervals, when furious quarrels break out between him and the two women. Reproaches, recriminations, and accusations in which Dorothy's parentage is freely mentioned before her, are frequent, and the grandmother, on these and other occasions, illtreats her, beating and kicking her.

Dorothy came to the primary school with a thoroughly bad reputation from home. At the infant school she was said to be "almost unmanageable," but had shown signs of improvement latterly. She was a badly-dressed, dirty, evil-looking little object, with a slouching, hang-dog walk, and a most unpleasant affection of the eye-lids which were inflamed and suppurating. The other children disliked and avoided her,



for she bullied them surreptitiously whenever possible—pinching and jostling and making faces in order to frighten them, and doing anything which could annoy hardworking and inoffensive girls. One of her malicious habits was to commit small thefts, rather with the object of embarrassing the owners than because she really wanted the things stolen.\* For instance, a point is made in this school of each child having a handkerchief; they also have to be very careful of the pencils issued to them: therefore Dorothy stole such things and was obviously delighted when trouble and difficulty arose; further she would always accuse some other girl of being the thief, even before she was asked if she had seen anything of the missing article.

Her attitude to authority was defiant in the extreme: not merely disobedient, she seemed to be trying to do the exact contrary of whatever she was bidden. When the teacher specifically ordered her to perform a certain action, she set to work in the most dilatory and grudging manner, and continually stole covert glances to see whether she was being watched, and to ascertain to what extent she dared evade her duty. As was only to be expected in a child so hostile to authority, her work was at first extremely bad: she never took any part in oral lessons, neither putting up her hand in response to a general question nor attempting to reply if personally addressed. At times she would suddenly utter a loud and totally irrelevant remark in order to make the other children laugh and so to distract their attention from the teacher. All written work was untidy and dirty. She tore and defaced both copy books and text-books, scribbled on desks, broke and bit her pencil, and spoiled sewing and knitting.

During the whole of her first term at school she constantly rubbed and irritated her eyes; but on any occasion on which she had been particularly ill-behaved, she maltreated them so violently that the inflammation was greatly aggravated, and she obviously suffered intense pain.

Under firm but kindly treatment her behaviour gradually altered and became much better. The teacher insisted on being obeyed, and on a certain amount of work being accomplished: at the same time she was lavish in praise for any sign of improvement, and gave the child as rewards the much-coveted task of "helping teacher." She was sent to the clinic, where her eyes were treated until practically all disfigurement had disappeared and they were quite healed: this was soon done because, as she became better-behaved, she entirely ceased to irritate them. As the cure was being effected she began to take pains with her personal appearance, becoming generally more clean and tidy, and paying attention to her hair, which is very pretty. After the teacher had made her a new dress and underclothing she became quite a good-looking girl, and her relations—both with authority and with the other children—became bright and pleasant, while her work improved no less than her character. This change was not carried over into her home, where she was still subjected to the same unsympathetic treatment; but as far as the

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\* When the teacher had realized this, and was also beginning to be on friendly terms with the child, she one day suggested that she had only taken an article "to tease." Dorothy grinned and nodded, and after that quite gave up causing trouble of this kind.



school was concerned she was regarded as a reformed character, and was promoted at the end of her first year into Standard II.

Here she began to behave badly again, being rude and idle, and preventing the other children from working. The slouching walk and the habit of making faces reappeared, and she looked as dirty, uncared for, and disreputable as she had been a year before, while her eyes were once more afflicted and were subjected to the same rough usage whenever she misbehaved. During her year in Standard II, and under the same kindly treatment that she had experienced in Standard I, she regained the characteristics with which she had left that class, and her eyes again healed; but recent promotion into Standard III has caused another total relapse, and she is at present indistinguishable from the unruly child who first entered the school.

The probable explanation is that her wretched home conditions have bred in her a spirit of acute antagonism to society, and particularly to authority. This is gradually subdued in her relations with individuals, but there is *no general modification of her attitude*, and any change of environment is immediately greeted with all the old symptoms of revolt and dislike.

May D—— came to the primary school at the age of seven, having just previously spent nine months in the hospital under treatment for venereal disease. Her parents, who are poor but very respectable, were obliged to live in a tenement building which is frequented by prostitutes, and the mother thinks that the child must somehow have contracted the disease from one of these women.

The long period in the hospital had made May very unmanageable. It was evident that she was accustomed to having much attention bestowed on her; she resented finding herself merged in a crowd of other children, and tried by every possible means to attract the teacher's notice to herself. She pinched and teased girls sitting near her, watching to see if she were observed and smiling when rebuked. During lessons she kept up a constant commotion—fidgeting, laughing, talking, and answering out of her turn. For the whole of her first term she was a confirmed "romancer," telling quite mendacious stories of supposed adventures that had befallen her, or boasting of the wealth and comfort of her home, which is in reality a very poor one. Any chance remark made by another child as to personal possessions, actions or achievements, was an irresistible incentive to May to "go one better," and she invariably did so.

At first she was far below the average standard of attainment in the class, but as she is very intelligent, and was humiliated at being excelled by the other girls, she quickly made progress in all subjects which did not depend on manual dexterity. In writing, handwork, and needlework, she remained clumsy and untidy: and it was observed that she sneered (no other term can adequately describe her expression) when any of her class-mates were commended in these subjects.

At the end of her first term, the class to which May belonged was entirely reconstructed, the complete apparatus and the furniture necessary for carrying on individual work being installed. Music and dancing played an important part in the curriculum; the children were provided with attractive overalls and light slippers to wear in school, and special arrangements were made for encouraging them to take a pride in their personal appearance.



This régime had a marked and favourable effect on the moral tone of the class ; the children were afforded many opportunities—hitherto denied them—of helping one another in their work, and of being unselfish in the sharing or surrender of certain popular books and pieces of apparatus. May quickly adapted herself to the new atmosphere, and became genuinely pleasant and helpful, although still as eager as before to attract attention. She gradually ceased to boast and romance, while she made rapid strides in all subjects excepting those in which she was still handicapped by being unskilful with her fingers. After the class had been working on these lines for two months, one of May's new shoes was discovered to have a long cut across the toe-cap : the teacher thought it had been damaged accidentally, and had it repaired without making any comment ; but a week later the outdoor shoes of two other children were discovered to have been cut in exactly the same way, and she began to make enquiries as to how this had happened. May accused another girl of having done the injury, but was eventually obliged to admit that she herself was the culprit. She was not punished in any way, as she expressed what was undoubtedly real contrition, and for the ensuing five weeks worked and behaved very well. Then two pairs of shoes belonging to yet another two members of the class disappeared altogether. For forty-eight hours they could not be found, and the head teacher at last announced that she must ask a policeman to come and look for them. May then said that she had just remembered seeing something hidden behind a picture in a disused cloak room, and the shoes were found in the place that she had indicated, and where she subsequently confessed to having hidden them herself. She could not be persuaded to give any reason for either incident, but consideration of the four children whose shoes had been interfered with suggests that she was (unconsciously ?) actuated by jealousy. Three of these were markedly good writers and did excellent handwork and sewing for which they were frequently praised, whilst the fourth was a mentally defective child who sat near May, and on whom the class teacher had been bestowing much time since the new system of work began.

The probable explanation is that when mutual helpfulness and the resultant kindly spirit began to prevail in the class, May was obliged, in order to secure the attention and commendation that she craved, to excel in these respects : consequently she had to repress the outward signs of jealousy, the pinch and the sneer, with the result that they were transformed into a vigorous onslaught on the children who outstripped her or received the teacher's especial care. At the same time this cannot be the full explanation of the matter. The five attacks on shoes, and her real inability to give any reason or explanation, point to there being something obsessive in the action. Unfortunately no investigation could be made in order to elicit further information on the subject, as the child's parents left the neighbourhood shortly after the third incident had taken place.

## TWO " BACKWARD " BOYS.

Leslie T—— was not sent to school until he was five years and nine months old. He is an only child, born after the death of his father, and his mother kept him at home petting and spoiling him until obliged to



take some steps about his education. Although nearly the oldest boy in the class he is one of the most backward, being over two and a half years retarded : further he has made practically no progress during a year at school. He is plainly not interested in his work, nor will he make the least effort to master it, no matter how careful and detailed are the teacher's instructions to him, or what inducements she offers to make him apply himself. In addition to this lack of interest, he has absolutely no power of concentration : even if his wandering attention is caught for the moment by a story or a new piece of apparatus, it soon flags and he devotes himself again to his favourite occupation—that of annoying his neighbours. This takes the form of surreptitiously hitting them or pushing them off their seats : and is plainly done with the object rather of discomforting them than of distracting their attention. Out of the class, as well as in it, Leslie is constantly striking the other boys and knocking them down, and he seems quite incapable of resisting the impulse to hurt them.

The interesting feature of the case is that the boy is, and for a year has been, expending all his energy in inflicting pain on his companions : it is evident as one watches him in the schoolroom or the playground that he thinks of nothing else. In this object he is deeply interested, and upon it he concentrates his whole mind ; and this appears to be the reason why he takes no interest in his school work. He is not humiliated in being surpassed in lessons by his fellows. Therefore, there is no question of his trying to compensate himself for being scholastically inferior by demonstrating his physical superiority. At the same time his attitude is not that of a mere bully who wants to obtain physical mastery over his weaker companions, for he attacks older and younger children quite indiscriminately.

A key to the problem may lie in the consideration of two boys—his most frequent victim and his only friend. The former is an exceptionally good-looking boy, while the latter is badly disfigured by a scarred face and a hare-lip. Thus his violence seems to take the shape of an attack on the human form as such—an obsession which renders him incapable of bestowing energy or attention elsewhere, and so causes him to be what is known as “ backward at schoolwork.”

Roland D—— is a younger son. His father married late in life a young woman who had two boys by him—Roy, now twelve years old, and Roland, his junior by three years. She was already seriously ill when the latter was born, and died eighteen months later. The father was immensely fond and proud of Roy, but conceived a violent dislike for Roland, who was a delicate, ugly baby, and cried incessantly in high screams. As the child grew older, this dislike on the father's part appeared to increase : he would shout at the boy if he attempted to touch or play with any article of furniture, would not permit him to talk, and would call him an “ idiot ” within his hearing. Sometimes he made the child sit at his feet, without moving, for an hour or more, whilst he indulged and made much of the elder son.

The two boys went to school at the same time—Roland being Roy's slave, and depending upon him even for having his boots laced up, though now eight years old. He was absolutely lacking in self-confidence ; his speech was very indistinct, *s*, *m*, and *d* sounds being slurred in particular, though his articulation was generally very imperfect ; he fidgeted



with his hands and feet, was excessively clumsy, and had a pronounced twitching of the facial muscles. This, and the slurring in his speech, were observed to be very noticeable whenever he was spoken to by anyone who might be regarded as a father surrogate—his head master, his form master, or the father of a family with whom he sometimes stayed. He was two years retarded scholastically, and made very little progress during his first year at school. At the end of this year his father died, and a slight improvement was seen in his work and in his speech: the facial twitching nearly disappeared, though the fidgeting with hands and feet, and the nervous playing with any movable objects, continued unabated. An attempt was made, during the ensuing holidays, when he and Roy had a tutor, to remedy his speech defects by giving him elocution lessons: he improved rapidly, in so far as the stammering was concerned, but the facial twitching reappeared almost immediately and he became very quiet and pre-occupied. One morning, shortly after beginning these lessons, he recounted a dream he had just had, in which a lion had broken into the playground at school and devoured him. He was asked, in a very casual manner, if there were any dream which he had frequently, and he replied that he often dreamed that all the boys were assembled in the playground to watch an execution; at the last moment he always discovered that he was the victim, and awoke just as the axe was about to fall. During the same holidays the tutor gave him and his brother, as a composition subject, the question: "What person whom you have ever known, or of whom you have ever heard or read, would you most wish to resemble? Give the reasons which make you choose this person." Roland hesitated for a considerable time, saying that he "could not think of anyone"; finally he wrote: "I have heard of sailors," after which he would do no more.

This child is obviously suffering seriously from the kind of upbringing to which he was subjected. The indistinct speech is probably the result of his being harshly repressed in his early efforts to talk, for the facts that he stammers more in addressing a father surrogate, and that his nervous movements increased when attempts were made to teach him elocution, point to the defects being functional rather than physical. The restlessness of hands and feet must equally be the outcome of childish movements being inhibited. In regard to the two dreams, and the choice of an ideal character, the interesting point arises as to whether the boy's sense of inferiority is not so strong that it amounts to the unconscious conviction that he ought not to be alive. In his dreams he is killed by a lion, the "king of the beasts," and as the king is often symbolical of the father, this may be a substitution by allusion for his parent; and he is executed by his school fellows, who, at present, constitute society for him. Further, the writer has, on several occasions, noted that "a sailor" is the ideal of children who do not seem psychologically fitted or willing to face life; in one instance a girl whose professed ideal was "a sailor" subsequently attempted to commit suicide.\*

At the moment Roland is improving rapidly in all respects. The elocution lessons have been discontinued, and both speech and movements are more normal. He has developed a great affection for his head master

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\* FORUM OF EDUCATION. June, 1926. Page 107.



and for his tutor, both of whom encourage him in his work without pressing him; and he is beginning to make distinct progress, as the nervous condition, which before made it impossible for him to give it his attention successfully in any direction, is gradually subsiding.

## TWO "ONLY" CHILDREN.

George P—— is an only son whom his mother, although he is now four years old, wants to keep a baby. He is dressed in overalls, such as little girls wear, and has long curls. His speech is still virtually that of an infant, in that—although he has acquired a certain vocabulary—he only articulates the vowel sounds, hardly using his lips and teeth at all to form consonants. His fingers are almost constantly in his mouth, but occasionally he takes them out and gazes intently at them, rather as if speculating as to their exact nature. After a month of school routine he has quite failed to accommodate himself in any way to his surroundings, and has still to be told everything that he should do. For instance he comes to the school room wearing his hat and coat, if the teacher has not made him take them off, and frequently, after the bell has been rung at the end break, he remains alone in the playground, waiting to be fetched in. When the class is dismissed he does not move from his chair until ordered to get ready to go home. As soon, however, as he has been instructed individually over any of these matters, he knows exactly what to do and does it quite correctly. He is always the last child in the line formed for marching to prayers or the cloak room: no matter how early his mother brings him to school, or where the teacher originally places him, he eventually appears, walking very slowly and abstractedly, far behind the other children. So far he has not attempted to join in the work of the class—he never answers a general question or volunteers any remark in conversation lessons: at drill or games he generally stands with his head on one side, sucking his fingers and gazing at his class-mates, though occasionally at drill he may imitate an odd exercise.

As far as can be ascertained there is no mental defect—he understands everything that is said to him, and, when individually attended to, can do as much with apparatus as other children in the class. Although his speech is indistinct, his vocabulary and framing of sentences appear to be normal for a child of his age, but he will only reply to direct questions, and has not yet uttered a single voluntary remark, either to the teacher or to his companions. At the same time, he shows no sign of dislike or fear of school: his general attitude is that of a child who is determined to be absolutely dependent on the teacher—who is seeking, in fact, to remain the infant that his mother wishes him to be.

Vera J—— is another only child of the same age, and in the same class as George, but she has had a very different up-bringing—her parents, who are no less devoted to her, have yet afforded her every opportunity to develop along her own lines. She not only settled down immediately on coming to school, but is already a power in the class, probably owing to her self-confident and demonstrative nature: if she likes a child she embraces him or her at once, and proceeds to embark on a long conversation. Consequently nearly all the children know her and obey her when she orders them about. This is of frequent occurrence, for she rebukes



those who are not quiet in the rest period—though she herself is usually the cause of their wakefulness—and at all times tries to dictate to them. They also imitate her slavishly: for instance, when she is amused or interested she laughs very lustily—the whole class follows suit, and the teacher has several times had to stop the lesson until she has calmed them down again. Her voice is both as loud and as clear as her laugh, and she joins readily in any conversation lesson, showing herself to be both intelligent and observant. When working with individual apparatus she is quick and imaginative, constructing quite ambitious houses or matching and arranging colours with ease and skill, whilst talking fluently about what she is doing and occasionally asking the teacher if she could produce anything as good.

She takes as great a delight in her clothes as she does in her attainments and, when she has appeared at school in a new frock, waits until the class is quiet, and then calls the teacher's attention to her finery, giving every possible detail about it. An equally feminine trait is her affection for the small boys in the class. Each child is allowed in the morning to select a partner with whom to march in to prayers: one day Vera took two, one on each side; when told that only two children might walk together, she instantly dismissed the girl and kept the boy.

The general impression that one gains of this child is that she has never been repressed, but that, on the other hand, she has not been spoiled. There is no sign of resentment when she is forbidden to do anything, while she obeys orders cheerfully and at once. She evidently desires power, but her influence over the class has been obtained quite naturally; she is neither a "busy-body" nor domineering, and is probably only actuated by that self-confidence which freedom wisely bestowed inculcates in the normal, healthy child.



## Consciousness of Method as a Means of Transfer of Training.\*

BY G. P. MEREDITH.

THE widespread interest formerly shown in the problem of the "Transfer of Training" has waned somewhat in recent years. Yet a great deal more evidence is surely necessary before the question can be regarded as closed, even in its theoretical aspects; and it cannot be regarded as solved in its practical (i.e., educational) aspect until the solution so far obtained has had its due influence on pedagogical practice.

Both sides in the dispute of fifteen to twenty-five years ago had to modify their extreme views—whether for or against transfer. On the one hand evidence crowded in from all sides that the favourite fields of formal discipline, when tested, were really barren. On the other hand distinct evidence of transfer (including interference, or negative transfer) sometimes small in amount, sometimes quite appreciable, was also forthcoming. Various suggestions as to the means of transfer were made. Speaking broadly we may say that there was a tendency to discredit transfer of training on the mechanical, or unconscious, level—with important exceptions in the form of groups of specialized habits carried over bodily from the training to the test series—and to look for transfer on the conscious level where reason can direct matters.

Psychologically speaking, the matter must rest there until the problem of specific and group factors is solved, and until the whole question of intelligence is more clearly understood. But in the meanwhile a great deal remains to be done to consolidate the position so far reached. The problem of formal discipline is one of the root problems of education, and many experiments under class-room conditions are necessary before the teacher can rightly interpret the psychologist's solution of the problem of transfer.

The theory of transfer has an immediate and obvious bearing on the teaching of science. If "consciousness of method" be the key to transfer of training, here, surely, is a field whose chief characteristic is the methodical nature of its investigations. And so many of the principles of scientific method can be detected also in the guiding principles which mark the superior "common sense" of the man who thinks effectively about the matters of daily life, that it is a reasonable supposition that by making explicit reference to the methods of science when teaching it, the teacher can cause these methods, consciously recognized, to become ideals in the thought-life of his pupils. In this way science can train the mind, not by developing fictitious faculties, but by *creating new* faculties (to adapt a phrase of Herbert Spencer's)—i.e., habits of attentive observation, valid inference, accurate judgment, and so forth.

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\* Adapted from portions of a thesis for the degree of M.Ed. in the University of Leeds.



To test whether such a means of transfer is effective, specific features of scientific method must be investigated. Definition is one such feature. Scientific method may be regarded as a body of rules, some of which are concerned with practical investigation, others with the construction of theories. In the latter an essential preliminary is the precise and unambiguous definition of terms. If daily thought is to become more scientific it too must begin by an exact definition of its terms.

The following experiment was carried out at the Brudenell Road Boys' School, Leeds,\* between December 10th and December 18th, 1925. Its aim was to test which of two different methods of teaching science was the more effective in securing transfer from training in defining scientific terms to defining ordinary terms in daily use, the two methods differing by the fact that one involved explicit reference to the form which a correct definition should take, while the other did not.

Sixty boys from the two highest classes (ages 13—14) were divided into three groups of twenty upon the two-fold basis of their teachers' estimate and an intelligence test† which was given them before the experiment. Thus three groups, A, B and C, of approximately equal average intelligence were chosen, Group A being the "control" group, Groups B and C the training groups.

The initial and final test series consisted of two definition tests, each being a list of twenty ordinary words (nouns), the two lists being as nearly equal in difficulty as could be judged. A full hour was allowed for each list, and both tests were administered by the class teacher. Without being too easy, the words were selected so as to be reasonably within the range of experience of boys of 13—14, so that as little difficulty as possible should be caused by ignorance of the meaning. The tests were meant to test the boys' ability to put a definition in its *correct form*. The two lists were as follows :

## FIRST DEFINITION TEST.

- |                       |                |                |
|-----------------------|----------------|----------------|
| 1. Solicitor.         | 8. Property.   | 15. Law.       |
| 2. Aerial.            | 9. Tramcar.    | 16. Basement.  |
| 3. Artist.            | 10. Murderer.  | 17. Shower.    |
| 4. League of Nations. | 11. Promotion. | 18. Newspaper. |
| 5. Kilometre.         | 12. Waterfall. | 19. Hypocrite. |
| 6. Locomotive.        | 13. Economy.   | 20. Dollar.    |
| 7. Parliament.        | 14. Theatre.   |                |

## SECOND DEFINITION TEST.

- |                |                 |              |
|----------------|-----------------|--------------|
| 1. Magistrate. | 8. Clothing.    | 15. History. |
| 2. Reservoir.  | 9. Orchestra.   | 16. Luggage. |
| 3. Politician. | 10. Journalist. | 17. Snow.    |
| 4. Profit.     | 11. Reputation. | 18. Joke.    |
| 5. Barge.      | 12. Storm.      | 19. Thief.   |
| 6. Hotel.      | 13. Habit.      | 20. Comfort. |
| 7. Rates.      | 14. Pain.       |              |

\* I gladly take this opportunity of expressing my thanks to Mr. Hall, the head master, and Mr. Waudby, the class teacher, for their valuable assistance, co-operation, and sympathy.

† The test used was "The West Riding Tests of Mental Ability." Set Z, by T.P. Tomlinson.



The class were instructed to "define the following words, that is, say what they mean." The whole sixty took both these tests, all in the same room and all at the same times.

The training series consisted of three lessons on elementary magnetism. The matter of these lessons was the same for Group B as for Group C, but the methods differed as indicated above. The school being one in which the heuristic method of teaching science is followed, the lessons were planned so as to fall into line with this method. They were accordingly experimental, the boys carrying out every experiment for themselves. A few minutes at the beginning and ten or fifteen minutes at the end of each lesson were devoted to discussion of the experiments and their results and the inferences to be drawn from them. Further, in the case of Group C the question of definition was discussed in each lesson, the matter arising naturally out of the first lesson, wherein the unique properties of the magnet were discovered, and the question of stating in precise terms what things were magnets and what things were not, arose.

The following is a summary of what was accomplished in the three lessons, with remarks on the different procedures adopted for the two groups, B and C.

There were five different short experiments in each lesson, each duplicated, so that the whole class of twenty were kept occupied, working in pairs. Each pair moved on to the next experiment as soon as they had completed one. Each experiment required five to ten minutes.

#### FIRST LESSON.

Here the aim was to "find out what things are magnets and what things are not." And in the case of Group C the lesson was used to illustrate the fact that a definition should include all that the word means and exclude everything else. The relation between this feature of definition and the aim of the lesson is obvious.

Before beginning the experiments, the pupils in both groups were told to write down their definition of a magnet. These definitions were collected, carefully studied afterwards, and in the case of Group C discussed in the next lesson.

The experiments were as follows :

- (1) Sorting out materials which are attracted by magnets from those that are not.
- (2) Distinguishing a magnet from an electrified rod of ebonite.
- (3) Comparing the effect on a compass-needle of
  - (i) a magnet ;
  - (ii) a non-magnetized piece of steel.
- (4) Experiments with an electro-magnet :
  - (i) Showing that the iron core is not magnetized ;
  - (ii) Showing that with the current switched on, the electro-magnet attracts iron and moves a compass needle ;
  - (iii) Showing that for the latter the iron core is not essential.
- (5) Finding the distribution of magnetism in a magnet.



In the ensuing class discussion several pupils were asked how they had defined the magnet. These definitions were then discussed to see how far they fitted the newly discovered facts about magnets. A model definition was thus reached. This happened in both groups, but Group C went farther. Here the *form* of the definition was then discussed and the following features were shown to be the essential characteristics of a good definition :

- (i) A definition must include everything included in the meaning of the word.
- (ii) It must exclude everything else.
- (iii) It must not be a mere repetition of the word to be defined.
- (iv) It must be in clear, simple, straightforward language.

#### SECOND LESSON.

With Group B the lesson began by their writing down again their definition of a magnet, and these were then discussed for a few moments to consolidate the results of the first lesson. In Group C the pupils were asked to write down the features of a good definition and the results showed that on the whole they had understood. The discussion helped to drive the matter home.

#### EXPERIMENTS.

- (1) On magnetic attraction and repulsion.
- (2) The identity of weight and force.
- (3) To lead up to the question of a unit of force.
- (4) To try to find a possible unit of pole strength of a magnet.
- (5) To measure how the distance from the magnet affects the magnetic force.

The ensuing discussion was with both groups concerned with the relations between weight, force, gravity, magnetic attraction ; and units were discussed and defined. This of course was the hardest part, for the boys were mostly under fourteen and the reasoning is difficult. In the case of Group C the discussion went on to consider classification and the "class and difference" form which a definition should assume. The meaning of the word "class" was obtained, and a number of names of scientific objects were classified. It was shown that in order to classify a word one must say "what sort of a thing it is." A satisfactory definition of the word "unit" was then reached.

#### THIRD LESSON.

After a little revision of the results of previous lessons the class proceeded to the following experiments :

- (1) To show magnetic induction.
- (2) To show magnetic lines of force.
- (3) To inquire into terrestrial magnetism.
- (4) To show the distribution of lines of force round a magnet and to make magnetic induction more evident.
- (5) To show fields of force from magnets in different positions.



The discussion afterwards was centred in magnetic induction, terrestrial magnetism, etc. With Group C it went on to consider the problem of defining a semi-abstract word such as "magnetic induction." It was decided to classify it as a "process," the definition then becoming: "Magnetic induction is the process by which a non-magnetized piece of iron or other magnetic substance becomes magnetized in the neighbourhood of a magnet." This was designed to overcome the tendency when defining such words as "promotion," "economy," "profit," to give the definition the form: "Promotion is when . . . ." The various features of a good definition were then recapitulated and set out on the blackboard as follows: "A definition must

- (1) Name the class to which the thing belongs, and then say how it differs from other things in that class.
- (2) Must include all that the thing includes and exclude everything else.
- (3) Must be brief, simple, and definite.
- (4) Must not be vague, "flowery," or negative.
- (5) Must not be a mere repetition of the word to be defined.

The difference between the lessons given to Groups B and C amounts obviously to that of "consciousness of method" in the case of Group C. B received "practice" in definition, but in their case it was incidental, implicit, and no attention was paid to definition as such. But Group C were *trained* in definition, the extent of their training amounting to three periods of discussion of some ten minutes each, which included practice in defining and a critical analysis of actual definitions. The training was thus not a simple, unitary process, but a combination of several activities involving the higher critical function of the mind.

The transfer to be investigated was from the definition of scientific terms to the definition of ordinary words in daily use. With Group B the only agency which might lead to transfer was the fact that both the end tests and the training series contained the "identical element" of definition. But there is no guarantee that mere practice, unaccompanied by critical thought, will lead to an improvement in such a complex process as definition. Mere repetition, without conscious rectification, only serves to confirm the performer in whatever habits, right or wrong, he may have acquired. Yet that improvement can take place under such conditions is the assumption underlying the dogma of formal discipline as applied to e.g., English Grammar. And as applied to Science this dogma has assumed that a great many powers—observation, judgment, etc.—are improved by the mere fact of being exercised, as though they were some kind of mental muscle.

These considerations explain why it was thought best to use three groups, so that in addition to testing how far consciousness of method may be an agency of transfer, the possible existence of the agencies of transfer of mental training assumed to underlie the ordinary methods of teaching science might be investigated. The greatest difficulty lay in the marking of the definitions. Roloff, in his monograph on "Kindliche

Definitionsleistungen," discusses the marking of definitions. He had three grades—"richtig," "halb richtig," and "falsch." But his definitions are concerned with matter more than with form, which is what had been trained by the above lessons. It was accordingly decided that the marking ought to follow the features which the lessons had shown to be necessary to a good definition. Each definition was a potential field for the commission of six errors, those namely committed by breaking the following six "rules":

- (1) Definition must be by class and difference.
- (2) It must include all that the word means.
- (3) It must exclude everything else.
- (4) It should not merely repeat the word or use less familiar words.
- (5) Its language should be precise, not figurative, vague, or redundant.
- (6) It should not be negative (unless the word is negative).

One mark was accordingly deducted for each error committed in any one definition. Even with a six-dimensional scale such as this, uncertainty could not be quite eliminated. For Rules 2 and 3 above are really more a matter of knowledge of subject matter than of form. To remedy this, the author read through the definitions given by the boys in the tests, formed an estimate of the extent of their knowledge of the connotation of each word, and then drew up a list of model definitions based on this estimate. This list was then used as a rough standard, but it was not followed slavishly and discretion had frequently to be exercised. The uncertainty attaching to individual judgment creeps in here.

In any paper in which one or more words were not attempted, the boy's average score was added for each such word. These scores are presented here in tabular form, the marks given representing errors, as already explained, so that the poorest scored highest marks.

The first column gives marks for the initial test. The total for the group is divided by the number of pupils, giving the average mark. The differences between this and the individual scores are in the second column. The sum of these differences divided by the number of pupils gives the Average Deviation (A.D.). The third and fourth columns give the scores and differences and averages for the final test.

It will be noticed that the control Group A has a higher score (i.e., has done worse) in the second test than in the first. The assumption underlying the use of the control group is that any factors (such as practice effects due to the first test, or greater easiness or difficulty of the second test) will operate equally in control and training groups. Any difference in the scores of the control group in the two tests gives us a measure of these factors, whose effects must accordingly be deducted from the scores of the training groups before calculating their true improvement. Thus on the basis of what the untrained Group A scores in Test 1 compared with what the trained Groups B and C score in Test 1, the score of Group





## CONSCIOUSNESS OF METHOD IN TRAINING.

## GROUP A (CONTROL GROUP) SCORES OF ERRORS.

| NAME.          | FIRST TEST. |            | SECOND TEST. |            |
|----------------|-------------|------------|--------------|------------|
|                | Score.      | Deviation. | Score.       | Deviation. |
| F. A. ....     | 27          | 2          | 26           | 6          |
| T. B. ....     | 24          | 5          | 28           | 4          |
| H. B. ....     | 19          | 10         | 32           | 0          |
| W. B. (1) .... | 26          | 3          | 29           | 3          |
| W. B. (2) .... | 20          | 9          | 30           | 2          |
| A. B. ....     | 47          | 18         | 39           | 7          |
| A. L. D. ....  | 20          | 9          | 31           | 1          |
| F. E. ....     | 45          | 16         | 37           | 5          |
| S. E. ....     | 41          | 12         | 42           | 10         |
| G. F. ....     | 38          | 9          | 33           | 1          |
| F. H. ....     | 36          | 7          | 46           | 14         |
| W. H. ....     | 21          | 8          | 21           | 11         |
| A. H. ....     | 30          | 1          | 36           | 4          |
| E. P. ....     | 37          | 8          | 20           | 12         |
| H. R. ....     | 28          | 1          | 35           | 3          |
| W. S. ....     | 18          | 11         | 26           | 6          |
| S. T. ....     | 28          | 1          | 30           | 2          |
| R. W. ....     | 24          | 5          | 33           | 1          |
| H. W. ....     | 21          | 8          | 27           | 5          |
| C. W. ....     | 25          | 4          | 36           | 4          |
| Totals ....    | 575         | 147        | 637          | 101        |
| Average....    | 29          | 7.4        | 32           | 5          |

## GROUP B SCORES OF ERRORS.

| NAME.         | FIRST TEST. |            | SECOND TEST. |            |
|---------------|-------------|------------|--------------|------------|
|               | Score.      | Deviation. | Score.       | Deviation. |
| S. F. ....    | 20          | 9          | 30           | 5          |
| B. G. ....    | 38          | 9          | 46           | 11         |
| D. G. ....    | 26          | 3          | 28           | 7          |
| F. H. ....    | 41          | 12         | 39           | 4          |
| E. H. ....    | 30          | 1          | 32           | 3          |
| A. H. ....    | 21          | 8          | 19           | 16         |
| G. D. F. .... | 21          | 8          | 29           | 6          |
| H. L. ....    | 24          | 5          | 37           | 2          |
| D. M. ....    | 28          | 1          | 38           | 3          |
| E. M. ....    | 32          | 3          | 43           | 8          |
| F. M. ....    | 20          | 9          | 27           | 8          |
| J. P. ....    | 19          | 10         | 29           | 6          |
| C. R. ....    | 27          | 2          | 29           | 6          |
| H. R. ....    | 30          | 1          | 36           | 1          |
| W. S. ....    | 41          | 12         | 40           | 5          |
| D. R. T. .... | 41          | 12         | 55           | 20         |
| V. V. ....    | 29          | 0          | 29           | 6          |
| E. W. ....    | 34          | 5          | 40           | 5          |
| J. W. ....    | 31          | 2          | 39           | 4          |
| Totals ....   | 553         | 112        | 665          | 126        |
| Average....   | 29          | 5.9        | 35           | 6.6        |



CONSCIOUSNESS OF METHOD IN TRAINING.

GROUP C SCORES OF ERRORS.

| NAME.         | FIRST TEST. |            | SECOND TEST. |            |
|---------------|-------------|------------|--------------|------------|
|               | Score.      | Deviation. | Score.       | Deviation. |
| R. L. A. .... | 45          | 14         | 37           | 15         |
| N. B. ....    | 30          | 1          | 18           | 4          |
| C. B. ....    | 24          | 7          | 13           | 9          |
| A. B. ....    | 39          | 8          | 20           | 2          |
| H. C. ....    | 50          | 19         | 28           | 6          |
| W. C. ....    | 42          | 11         | 24           | 2          |
| K. C. ....    | 24          | 7          | 21           | 1          |
| H. D. ....    | 34          | 3          | 26           | 4          |
| F. D. ....    | 25          | 6          | 24           | 2          |
| W. F. ....    | 32          | 1          | 23           | 1          |
| S. H. ....    | 24          | 7          | 16           | 6          |
| R. M. ....    | 30          | 1          | 20           | 2          |
| E. M. ....    | 30          | 1          | 18           | 4          |
| G. F. P. .... | 22          | 9          | 19           | 3          |
| T. S. ....    | 29          | 2          | 23           | 1          |
| R. S. ....    | 30          | 1          | 16           | 6          |
| W. S. ....    | 32          | 1          | 27           | 5          |
| S. W. ....    | 29          | 2          | 22           | 0          |
| B. W. ....    | 19          | 12         | 15           | 7          |
| Totals ....   | 590         | 113        | 410          | 80         |
| Average....   | 31          | 6          | 22           | 4.2        |

## Discussion.

### English in the School Certificate Examination as a Qualification for Admission to Training Colleges.

By S. HOOLE.

FOR some time I have had grave doubts about the value of the School Certificate Examination as an indication of the fitness of students to enter upon a course of study in a Training College, but my attention was especially directed to the subject of English by the receipt of the following letter :

DEAR MR.—,

“ I am so very grateful to you in being so kind and for causing you so much trouble, and I cannot express my thanks for your great kindness for returning my acceptance form.

I am, etc.”

The writer of this letter was a matriculated candidate, aged nineteen, who had obtained credits in English literature, geography, Latin, and natural history, together with a distinction in history.

Of course such letters are not numerous, as the letters written to me are mainly formal requests for prospectuses and application forms. It is when the candidates try to express *themselves* that they give themselves away, e.g., “ The reason for my applying so late is because I intended to go to a University as a degree law student, but now I have decided to go to a training college as a junior teacher.” But it is not difficult to find peculiarities even in the formal requests, e.g., “ Would you kindly send me a prospectus and a grant-aided application form ? ” “ I beg to apply for a Syllabus for 1926-27.” (This is the whole letter written on a scrap of paper cut from an exercise book.) “ I should be pleased if you would send me forms of application and any other particulars that you care. I have matriculated.” “ If I brought my luggage may I have your permission . . . ”

As a result of reading some of the letters of applicants, I made a point of asking candidates whom I interviewed what “ credit ” in English (many of them call it so) really meant. I found it meant “ credit ” in literature only, and the sole language test was a précis and an essay, for which no credit was obtainable.

This struck me as serious in view of the importance attached to English language in the examination for the Teachers' Certificate, and I prepared a questionnaire which I submitted to the 200 students in my college. Their replies show that :

- 23 have had no instruction in English grammar or syntax in their lives ;
- 89 only have had some instruction in English grammar or syntax in both elementary and secondary schools ;
- 88 have had some such instruction in one or the other ;
- 161 have never had any instruction in speech, or even practice in reading aloud in their secondary schools.



The general accounts of the instruction in English which they had received in the secondary schools showed, as might be perhaps expected, in view of the nature of the School Certificate Examination in that subject, that in far the greater number of secondary schools "English" means "Literature." In many cases where any language instruction is given, it is during the first year only. In a fair number of cases it covers two years, but only in a few cases three years. Judging from what I could gather from the students' general accounts of their secondary school work in English, I considered that: 21 had received good instruction, i.e., from two to three years; 99 had received fair instruction, i.e., two years, though perhaps not very systematic or thorough, whilst 79 had received no instruction at all or only for one year.

In practically every case I found that during the last two years at the secondary school no work was done in English language, and in very many cases no essays were written.

The written work of students in the college goes far to show that my estimates, as indicated above, erred on the side of leniency. Even the most elementary rules of syntax are disregarded, e.g.:

"Upon him and he alone depends the result."

"It is easylier recalled."

"All things must be helping boys to attend."

"We bend our heads in order that the best ear might receive the sound."

"The examples and experiments is a concrete operation."

"What a mass of facts are leading to."

"Each of those are individual notions."

"Every member of a family were criminals."

"The child follows the course chosen by people who he meets."

"His use of gestures were indefinite."

"The teacher's use of devices were disappointing."

"Their (*sic*) is a vast difference in the treatment of the two subjects."

"The teacher gave the matter in good style, though he may have been a little brighter."

"The poet has often been deceived by the bird thinking he was part of the bush until he flew away."

"Rome itself was threatened by an invasion while the Roman people are undecided."

The above are selected, on account of their brevity, from 150 examples of faulty English supplied to me by my colleagues from Christmas examination papers or note books of students who have been here one term. The simple concords are not observed: split infinitives abound: "to first of all firmly establish." Subjects are forgotten: "The habit of new work, of clear thought, of perseverance, should all, etc." Tenses are changed: *v.s.* Words are grossly misunderstood: "Not for harrowing profit," "two founders of attention," "a detraction of attention," "to process to propogate." Adjectives are used as adverbs: "Does work voluntary." The participle in "ing" is a constant stumbling-block; ellipsis a pitfall: e.g. "The current comes on the wire. In the lamp it meets the filament. This is resistance. In trying to overcome this resistance we see light." This is to explain the working of the electric lamp.

Punctuation is understood in the very sketchiest way. In many instances only the comma and the period are used (or neglected !). If the semi-colon is used, disaster is almost certain : e.g., "As a result of the friendship existing between autumn and the sun ; all the fruits and flowers are ripe ; the apple trees bending under their load, every apple of which is filled with ripeness to the core ; the hazel nuts shells fitting tightly around a sweet ripe kernel ; and the late flowers of the year already in bud."

To indicate the extent of this weakness in English language I may mention that of 32 First-Year men's papers I marked recently, only four were free from grammatical errors.

Of 70 First-Year women examined in English language at the end of their first term, 45 fail to obtain 33 per cent. of the marks.

They were required to answer three questions, and all should have been able to pass on the two questions following :

(i) " Page 172 of the ' Selected Essays.' Make a précis of the paragraph beginning ' If the stage is useful.' "

(ii) " Select eight of the following words and make use of them in sentences which convey their exact meaning :

" credible, credulous, efficient, effective, essential, subtlety, inference, speculative, proficiency, reticence, transmute, cursory."

It is difficult to evade the conclusion that there is something amiss when students, coming to us after a five years' secondary school course, write the kind of English of which I have given samples ; and fail in a test so simple as the above.

And, finally, there is something anomalous in a system which admits students to training colleges on the results of an examination which provides no real test in English language, when in the Teachers' Certificate Examination failure in the English language paper may mean failure to obtain the certificate.



## A Nineteenth Century Teacher : John Henry Bridges.

By Susan Liveing. With a preface by Professor L. T. Hobhouse and an introduction by Professor Patrick Geddes. (Kegan Paul, 1926. Pp. xv.+262. 10s. 6d.)

BRIDGES is less generally known, and overtly influenced public opinion less, than the other three members of the inner band of Positivists, Congreve, Frederic Harrison, and Beesley. By the title of the book—for Miss Liveing obviously uses the word “teacher” in the sense of a man with a message—the author is probably claiming, not so much that the nineteenth century was actually moved by his teaching as that the twentieth century might well be stirred by it. The title is at once a challenge and a lament; a challenge to the verdict of neglect, which implies that in the social field, compared let us say with the Christian Socialists, or in the intellectual field, compared let us say with Huxley and Spencer, the Positive band were a minor force; a lament that Bridges, with his remarkable gifts and with a combination of humanistic and scientific training unusual in his day, did not devote himself to producing an English synthetic philosophy which might have ousted Spencer and eclipsed the influence of T. H. Green.

The book presents us with a vivid picture of a well-balanced personality, in which the speculative, the æsthetic, and the practical were so harmoniously blended that we could not desire to alter the balance. He saw both sides to every question, he admired the good in men of all times, parties, and creeds, and his catholicity of interest embraced science, religion, literature, and social reform. Had he been born in the year in which he died, he would have found the views which alienated his contemporaries widely accepted. When he was right, it was generally an ethical judgment which made him right, and he generally went to see the facts with his own eyes. The contemporary attitudes of the middle and upper classes towards the struggles of the Trade Unions for recognition, the administration of the poor law, bad housing and bad sanitation, were due either to callousness or to unawareness of the facts, or to both. Bridges saw and felt: he did not start from political theories. In foreign affairs his power of thinking a generation ahead is almost startling. Setting out from the position that morality applies to international relations, and holding practically the post-war views as to the rights of nationalities, he opposed practically every war of his day without accepting theoretic pacificism, and criticized everything which he regarded as unjust in the international action of his own country without falling a victim to that caricature of public morality which believes that its own country is always in the wrong; indeed, from 1866 onwards he regarded Prussian militarism as the most dangerous obstacle to the realization of his hopes.

Ought this practical idealist to be regarded primarily as a teacher? He himself chose to be a man of action—an inspector under the Local Government Board. We understand the motive which has led the author to her classification. No really great man, it is felt, could be an inspector

under the Local Government Board ; no really great work could be done in that capacity. At the bottom of our hearts we all feel it. It is a feeling characteristic of the twentieth century, the century of Socialism, under which society is to be regenerated by the activities of public officials ! Yet was it true of the nineteenth century ? Kay-Shuttleworth was able to do almost more good for public education than Lowe, a Cabinet Minister, could do harm. The chapter as to what Bridges did in humanizing the poor law, especially the poor law schools, leaves on us the impression that here was a greater work than any he might have done had he elected the sphere of his life work differently. The nineteenth century was a transition between the frictionless energising of a Grand Vizier and the megalosauric immobility of a modern Government department : an official could still have a policy and carry it out.

Miss Liveing convincingly traces the genesis of Bridges's outlook to his early Evangelical training. So big a personality could not be imprisoned in so narrow a cabin. Reaction there was bound to be. Had intellect been greater than emotion, he would have become a follower of Spencer. Had emotion been greater than intellect, he would have followed Newman. As both were alike, he had only to know Comte to follow him. His knowing him at the impressionable age was due to the accident of his choice of a college, as Wadham in the days of Congreve was practically the only place where he would have heard of him.

What would have been the result had Bridges chosen to spend his life in promoting Positivism or some synthetic philosophy of his own which was a variant on it ? It is probably true that his possession of more of the scientific equipment than any of the other three Positivist leaders gave him an advantage which they did not possess. But it is hard to believe that Positivism stood any chance in Great Britain. British Protestantism dechristianized produces Rationalists, not Positivists ; the worship of humanity is not even the whole of " Catholicism minus Christianity," it is rather the more popular cultus of the saints, which is not an important element in Anglo-Catholicism or even in English Roman Catholicism. Humanity, as distinct from human beings, is an abstraction : the worship of humanity is therefore in effect an atheistic *polytheism* : whereas, in a philosophy like Bergson's, the life that appears in each man is a part of a real something, which could form the basis of an atheistic *monotheism*—a conceivable English " Catholicism minus Christianity." Further, we see no other way of producing a religion by combining the results of science with the results of history ; creative evolution admits both of being incorporated into Christianity and of being the basis of a separate religion.

Professor Patrick Geddes's introduction interprets Positivism as the spirit which insists on finding a unity in knowledge, as opposed to the manifold existing branches of specialization, and in so reforming higher education that the learner looks for such a unity. Surely the time was not ripe for such a synthesis. True that, if we were to wait till science had completed her work, we should have to wait for ever : but at least we had to allow the main branches of knowledge to reach their adult stage. The synthesis of geology, biology, anthropology, archæology, history, and sociology which is now taking place required of each of those subjects certain definite pieces of knowledge which were necessary to trace the



actual evolution of human society as it now exists all along the line : a nineteenth century synthesis would, like the Irishman's coat, have consisted of a number of holes stitched together.

Academic orthodoxy lays down to-day that the greatest thing a man can do is to write, and universities, if they had their way, would by means of facilities for research convert all the best potential doers into writers. Of course, with social reform left to quacks, civilization would soon vanish, and universities with it : and the last bit of research before the cataclysm would be occupied in finding out why it was going to happen. The greatness of Bridges was shown when, holding a religion which offered posthumous fame as its highest reward, he sacrificed his immortality to duty. " Whosoever loseth his life . . . . "

Bridges chose to be a doer, not a teacher. But in this journal it is right to claim him as a great educator. The years of his administration were 1869 to 1891. Add a few years at each end and we have the period of Lowe's Code: without addition they synchronize with the period between the two commissions on Secondary Education. Secondary education, outside the State, was spreading the idea of the education of the whole man. State elementary education regarded education as the conveying of utilitarian knowledge. But, in ordinary cases, the power of the State was limited ; for the home could give an education which was not included in the Act of 1870. There was, however, one class of children, those brought up under the poor law, over the whole of whose lives the State ruled. And the State was Mr. Squeers writ large. It was these schools which Bridges humanized.

Yet in doing so he recognized his limitations, " the want of a mother's care, the entire absence of family life, the negation of the training in elementary notions of right and wrong which are infused unpreached, unspoken, and instinctively by the habits and traditions of a well-ordered family in wholesome contact with its neighbours. The shrewd observation, the common sense, the habit of making ends meet, and of finding how far a penny will go, the close attention to things and people, the minute care, often the heroic devotion to younger children, these and other things of the kind in which the family of a workman in regular wages is often far more favourably placed than the families of the rich, are wholly wanting here. The children of the State, brought up at treble the cost of workmen's families, too often turn out dull, mechanical, sullen slaves." An educational journal is only concerned with political beliefs on their educational side, but Bolshevism, by insisting on the State ownership of children and the denial of the family, is attacking a fundamental educational truth.

R. L. ARCHER.

## Psychology applied to Education.

By the late James Ward, Sc.D. (Cantab.), LL.D. (Edin.), D.Sc. (Oxon.),  
Professor of Mental Philosophy, Cambridge. Edited by G. Dawes Hicks.  
(Cambridge Univ. Press, 1926. Pp. vii+188. 10s. 6d.)

It is twenty-five years since, in an unexpected and undeserved fourth year at college, I realized at last what university study ought to be. "Mental and moral science," after three years spent on other matters, opened to me the door of that thrilling experience which comes when the things it is one's daily duty to study and explore are actually the things which one really wants to know. In that most inspiring year, the chief inspiration on the side of oral instruction came undoubtedly from the psychology lectures of Professor James Ward. Many of his students must vividly remember that lecture-room in Trinity Street, and the slender upright figure and worn delicate features of the lecturer, whose trick of lecturing with closed eyes increased the impression of enwrapping thought. His deliberate speech, in its austere and beautiful English, conducted us through an hour's vision of things which seemed at once very difficult and very clear; clear only on condition that one could wholly concentrate, to see detail by detail through the appearance the lines of reality that our master saw, but then perfect like an etching.

Now, twenty-five years after, comes work of that master's done twenty years before. These lectures on "Psychology applied to Education" were given originally in 1880, at a course arranged by the Teachers' Training Syndicate, and re-delivered two or three times in succeeding years. The style is the same that we knew in 1901, grave and fine, with gleams, here and there, seldom emphasized, as of the sun upon ice. "The secret of Japanese lacquer is, I believe, to put on many coats, but only one, very thin, at one time; and this would be the best policy even if all you wanted to do was to lacquer your pupils." "The grass does more than the trees to make the earth look green." "Language is a sort of philosopher's stone which precipitates the fleeting and soluble imagery of thought. One fixes it in solid form comparatively safe from further transmutation in the flux of consciousness. It is this where we think for ourselves; but, when we receive the words of others without corresponding thought of our own, such forms are hollow and yet opaque: they make a dreadful rattle and keep out a deal of light." "As the *Amphioxus* is the lowliest vertebrate, so the epicurean affords the lowliest example of rational conduct. There is only one thing in which this creature . . . can boast itself superior to the molluscs; it has no brain, *but it has the beginnings of a backbone.*"

"Professor Ward had, I think," says the editor's preface, "rather the impression that William James' 'Talks to Teachers' had rendered his own lectures superfluous. Yet, admirable as in many respects these 'Talks' are, Dr. Ward's treatment of the same problems is far more systematic." Few books dealing with the same problems could be more different than these two. Most of us probably have recommended the "Talks" amongst introductory books for two-year students, and for science graduates new to psychology; and have found that they were



read with ease and pleasure. It would be impossible to use Dr. Ward's book in this way. The book is difficult, as the lectures I attended were difficult; and Professor Dawes Hicks' excellent notes, briefly indicating certain modifications which the author would probably have made in later years, are inevitably more difficult still.

Can we then recommend it to those intellectuals among our students who will be complimented rather than scared by difficulty? And at what point in their course shall we put it before them? I had these questions constantly in mind as I read. The comparison must evidently be made, not with James' "Talks" but, say, with Drever's "Introduction to the Psychology of Education." This comparison, which I was finally led to make in some detail, had remarkably interesting results. I can bring them out best, perhaps, by comparing the indexes of the two books. Excluding cross-references, Dr. Drever's index contains about thirty-five words whose reference-statements involve an "ff." Nine of these thirty-five have three or more references in Ward's index ("development, discipline, imagination, learning, personality, self, sense-training, thinking, volition."). Three others ("emotions, imitation, sympathy") have two references each; one ("appetites") has one. The remaining twenty-two (except for one or two used in different senses from Drever's) do not occur in Ward's index at all. These twenty-two fall mainly into four groups: (i) names of modern writers (Baudouin, Burt, Binet, McDougall, Montessori, Thorndike); (ii) words connected with mental tests and measurements; (iii) words connected with psycho-analysis; (iv) three words—"instincts," "interests," "tendencies"—without which a writer of the present generation could hardly produce one chapter. I do not mean of course that these words occur nowhere in Dr. Ward's book, but the index-maker has done no injustice by omitting them. Another similar word, "disposition," has eight page-references in Drever though it lacks an "ff." This word also in Ward's index is missing. I was hardly prepared for so striking an illustration of Dr. Drever's own summary (lec. cit., p. 25) of the chief contributions of psychologists of the last thirty years; that to the type of psychical fact called conscious process they have added the study of two other types—the structural mental elements or dispositions, and the inter-action of these elements.

I suppose that, amongst English-speaking scholars, the two pioneers of modern psychology have been first Ward and then William James. James has just that step further which makes him seem more like ourselves. But that even in 1880 Ward was reaching forward to the language of "dispositions" might be evidenced by his free use of the term "faculties" at the same time that he guards his readers against the misconceptions of the older faculty psychology. "Faculties," "powers," "energies"; such words were the best habitually available. We are not satisfied with our vocabulary even now: Professor Nunn has enriched it by new and strange terms to express the urge and drive which we now perceive within the living organism; and the lack of *urgency* in the older words was inevitably a handicap to thought. Ward seems to stand on the borderland of noting the importance of this urgency and pressure. Education, on one of his pages, is "the educating or drawing out of faculties," but on another it is "guided growth." Pleasure comes from activity; from exercising powers; from "our energies being fresh, and either waiting

or seeking the opportunity for action " (p. 30). In the kind of curiosity that Germans call *Wissbegie* (p. 43) " for the first time, we come upon an activity determined by a definite want, an intellectual *hunger*." But the whole subject might serve as an exceptionally good illustration, first of the enrichment of one science by contact, even rough contact, with another (medical science entered our field with James before Freud and Jung reached us) and secondly of the inter-dependence of advances in vocabulary and in thought.

Neither is it merely accidental or a trick of fashion that all the writers quoted with " ff " in Dr. Drever's index are later than Ward's day. Ward as a psychologist gathered up the work of his British predecessors and corrected it, and set us on the right path with such effect that the predecessors are forgotten, and we tend most unjustly also to forget who set us there. Only two writers are referred to at any length in Ward's index : Locke and Bain. That Ward's work was well and truly done is witnessed to by the absence of his name in Drever's index (and in Nunn's) and the presence of the names of his pupils. Ward taught us so well that what he taught seems now to have been a matter of course from the beginning.

In the last thirty years we have altered, I believe, none of his positive teachings, but our own additions have been chiefly in a different region from that of his special work. We have added, as was said, other things than conscious process ; and their bearings on conscious process have happened to concern most the conative side and the lower levels on that side. It seems a little unfamiliar and refreshing just now to read in Ward's page of " clear and distinct thought " and of " right reason." We shall certainly return to these subjects, enriched by what we have added elsewhere.\*

Meanwhile in his own region we may fully agree with his editor : " It is, in truth, surprising how completely the principles here propounded are in accord with the best that has been thought and said upon the theory of education in recent years." Ward's account of a child's growth in thought (e.g., pp. 40-44) may seem a little remote and academic through lack of insistence such as Dewey's on the problems set by practical activities ; but he is no whit behind Dewey in his warnings against mere instruction bestowed on a passive recipient in psysical, mental or moral affairs.

" Training we may say is *directed growth* . . . Education is possible when growth begins and so long as there is growth . . . The continuous activity of the faculty to be trained is the *conditio sine qua non* of training. . . . Then, however, comes the objection that this process . . . is so slow ; and this very true remark leads to another point, that growth is slow, slow it seems to us who look only at the result, but not slow when we consider how many steps that we have never known or have forgotten such growth entails." (P. 13.)

" The point I desire . . . chiefly to insist upon is not so much the knowledge gained as the mental quickening. By a judicious training in observation you begin to make a child think when it is five years old.

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\* Perhaps it is significant of a turning tide that the social psychologist who published " Human Nature in Politics " in 1908 has published " The Art of Thought " in 1926.



But, if the child is left to itself till it is seven or eight, and then put to learn spelling and tables, it is really so smothered under a mass of crude and shapeless ideas, loosely strung to a tangle of vague words, that thinking is impossible. There are a few animals in the world that can eat hard for a whole summer, and then, after a good sleep, grow into something lively and handsome ; but these are grubs and not children. If a child is to think to any purpose, he must think as he goes on ; as soon as the material he has gathered begins to oppress him, he must begin to think it into shape, or it will tend to smother intellectual life at its dawn, as a bee is drowned in its own honey for want of cells in which to store it." (P. 52.)

Allowing for a few changes in wording, we are urging the same thing still. And the same is true of the chapters in which he discusses educational values. Science teachers perhaps by this time have overcome some though not all of the difficulties he notes in 1880, but his comments as classical training should still be of value to those who wrote the departmental report on the subject only a few years ago. And his plea for the place of economics, political science, and logic in secondary schools accords with a movement which only in recent years has begun to make real way in England.

Finally, he recognizes quite clearly what education needs from psychology :

" Psychology, as a science, may be said to fall into two parts : an analytic part, and a synthetic and genetic part. It is this last that is mainly of importance to the educationist : if, instead of attending to this he attempts to make piecemeal applications of psychological analysis, he is in great danger of bewildering himself and of discrediting a good cause. But the misfortune is that psychology is most complete in its analytic part ; and, just where the educationist wants it most, it fails him most." (P. 104.)

Synthetic psychology is not always of the best quality yet, but its bulk has increased immensely, and, as Ward foresaw, the educator is the better for it.

The only parts of this book which " date " in a deprecatory sense—where the doctrines seem out of harmony with ours—are those parts in which the writer was dealing with subjects not strictly his own. The logic, with its superabundant space given to classificatory thought, and the utilitarian ethics of a highly transitional kind, both suggest that they were taken over from current doctrine, and not re-made as the psychology has been re-made. Had it been his main business to think about logic and ethics, these no more than the psychology would, we may suppose, have been left as they stand.

And this brings us to the two final chapters of the book, which are not part of the original course but papers written respectively in 1903 and 1917. It was a happy thought of the editor's to include them, for they show not the least fossilization but a mind awake and growing right up to the end.

In 1903 he is prophesying that " a generation hence " the development of individuality will be avowed as the supreme end of intellectual education. " Hitherto scouted as wild and visionary, though maintained by thoughtful men from Socrates' day till our own, it will, I verily believe, by that time be accepted as practical common sense." Nor does this mean merely the development of the highly gifted and the leaders of the nation.

In some admirable pages he sets forth "what the new century demands of us . . . the development of . . . the individuality of average men and women, the people who have hitherto been supposed to have no individuality at all." And fourteen years later, in the final chapter, he lights the same doctrine with a sunset glow. "What when the whole world is perfect will everybody do? Find delight in creation and in friendship is the only surmise we can make as to a state that wholly transcends our imagination. It was, I take it, on these lines that the scholastic doctrine grew up that every angel was *sui generis*, and interesting, therefore, to every other . . . Our surmise suggests anew the supreme value—we may call it this time the final value—of personality."

This final essay of 1917 is not the utterance of an old man but the voice of our own day, as it sounded in the penitent and hopeful time towards the end of the war. "We must try to realize that there will be henceforth no 'generally accepted scheme of things,' and that, therefore, the task of reconstructing will devolve on individuals no longer helped or hindered by vested interests . . . Henceforth everyone is to start with the nobleman's chance; one may have it thrust upon him, but all are to have the opportunity to achieve it; and only by achieving may any hope to retain."

Would that it were so, we say now. But we may join at any rate in the spirit of his final words:

"Personally, I confess, I have long felt that 'unaccountable humility' in the presence of a child, which Mr. Russell describes, whenever my thoughts have led me to think of the child's future; and never have I felt it more than in these latter days when such vast tasks are seen to await the erstwhile child. . . . We talk mostly of the submerged tenth of the population, but . . . as regards education it is a submerged nine-tenths that we ought to talk of. Our callousness to this awful waste and injustice will some day be condemned as universally and as severely as the indifference of our forefathers to the evils of slavery is condemned now. But . . . the education itself . . . tends to keep the world stationary rather than to promote its progress : . . . The value of a single man or woman of open mind, independent judgment, and moral courage, who requires to be convinced and refuses to be cajoled, is only concerned to be right and not afraid to be singular, deferring to reason but not to rank, true to his or her own self, and, therefore, not false to any man—the value of such a man or woman, I say, is priceless: a nation of such would leaven and regenerate the world. That is the true education at which England should aim."

I still hardly know the answer to the question I asked, whether we should recommend our students to read this book. The difficulty is that they can hardly read it until they have practised on easier books; and that then in their second stage they may think that prophetic truths are truisms, while the 1880 logic and ethics may confuse them. Perhaps it must wait for that third stage in which the history of their subject is interesting and great figures are worth studying. But their teachers at any rate may be glad that this book has been published, above all if they had the good luck in their youth to sit at the feet of its author.

HELEN WODEHOUSE.



## The Educational Theory of J. G. Fichte.

A Critical Account, together with translations. By G. H. Turnbull, Professor of Education in the University of Sheffield. (University Press of Liverpool, Limited. Hodder and Stoughton, London. Pp. 283. 12s. 6d.)

PROFESSOR TURNBULL is to be congratulated on this study, and the University of Liverpool also deserves congratulation on the publication of the work, for it is a courageous thing to issue accounts and criticisms of the old educators. Our age is remarkably self-contained and self-centred. The young man and the young woman of to-day often regard even the Victorian age as hopelessly antique, and the ages before that as lost in obscurity and futility or worse, unless, indeed, we go back to "primitive man," at which start or stage of history our young educationists begin to manifest a surprisingly vivid and richly hopeful interest. But the old recognition of the unity and with it the continuity of history is with difficulty realized. We are, as we say, in a "new age." Previous ages were comparatively puerile. Our age is the age of youth, has not Sir J. M. Barrie proclaimed it at St. Andrew's? And—do we not remember too easily the words: "When I was a child, I spake as a child, I understood as a child, I thought as a child; but when I became a man I put away childish things?" We have all the pride of a new age. We are apt to think past ages childish.

The price we pay, as an educational age, is that we become self-concentratedly "young" and are liable to all the dangers of self-centredness. If for instance the subject of the history of education is not a lost cause, it is at least overlaid by other, and as it is thought, more pressing needs. Now, Professor Turnbull thinks Fichte was a man of wisdom, and made a contribution to the historical current of educational thought. The question arises: Have we room for him? Or is a careful thorough-going study of Fichte superfluous, and Professor Turnbull's determined, devoted and convinced labour in this solid piece of work before us lost pains and waste?

Shakespeare said, long ago: "The eye sees not itself," and we may apply this dictum as to the individual to the age in which we live. The age—the educational present sees not itself, unless it regards itself as part of the whole philosophical outlook in space and in time. We ought, educationally, as Rosencranz (the successor to Kant's chair) so strikingly said, to look upon education of the individual (and it applies to the age) as a process of self estrangement. If then our age is an age of restricting the outlook mainly to the present, are we not likely to lose this sense of self-estrangement (the essential basis of the educational process) or at least to weaken it.

If then, we are asked: What is the good of troubling ourselves to know about Fichte, we should say that he deserves high respect (we mean consideration and study) because in the age of the Napoleonic world-struggle he regarded education as the most powerful instrument of social regeneration—and the way of facing the heart-breaking situation and problems of the war of his age was to seek to bathe the age in the steady, solid, mature wisdom from the past, as the basis of the present—in other words, to enter into a new age by direct continuation on the

high road—rather than in by-paths, and by plausible short-cuts. If Fichte had written nothing else than the following he has said enough for us to bless Professor Turnbull for filling the gap which hitherto has made Fichte in the present time inaccessible to the English students of education not intimately acquainted with the German language. Fichte says in his last lecture on that remarkable “Characteristics of the Present Age” (translated in 1847 by William Smith, now forgotten along with other books of eighty years ago): “Should our view of the present age prove to have been a view taken from the standing-point of this age itself, and should the eye which has taken this view have been itself a product of the age which it has surveyed, then has the age borne witness to itself, and such testimony must be cast aside; and so far from having explored its significance, we have only added to the number of its phenomena a most superfluous and unproductive one.”

This is a wonderfully sane pronouncement, and the neglect of this safeguard explains why so many educational books of our own age are “superfluous and unproductive.” But anyone who will read carefully Professor Turnbull’s lucid and stimulating chapters on “Fichte’s Theory of Education” and “The Permanent Value of his Theory”—will see why he influenced so deeply German thought on education, and why he has still a message of educational stimulation for the present age of English education and indeed that of all the other European countries. It is well to recall ourselves sometimes to the “self-denying ordinance” of reflection and meditation on the past and to direct our energies in the line of continuity from the past to the future in education; not to minimize the past but to “sublimate,” as the new educationists ought to realize, its wisdom into the present. Hence, we need to know that educational past, and to enter into the best of its spirit, as hitherto manifested, and to hand it on, not only unimpaired, but also further stimulated and more widely diffused, to the educational minds of the future.

Professor Turnbull and his publishers have produced an excellent book. The next step forward is for the educationist to read it and to think about it. Fichte conceives the world in the largest sense for each human being as a world of action, but it is his own world, the world which is, so to say, self-created by his education in which alone he can live and find enjoyment of himself. “This action he does not will for the sake of a result in the world of sense, but he wills it because it is the will of God in him, and his own proper portion in Being.” Hence, “not merely to know, but according to thy knowledge to do is thy *vocation*.” Fichte accordingly holds that the problem of existence to the individual is, ‘*my vocation to moral activity*.’”

It is a great gain, surely, to enter into the atmosphere of Fichte’s spiritual conception of education. Professor Turnbull is an excellent guide in helping his readers to discriminate between the false and the true ideas in Fichte’s details of opinions in working out his philosophical conceptions into the practice of education. We can understand Fichte’s foreshadowing of an educational policy adequate to retrieve the disaster of Jena, though we deplore the later self-centred national developments. His own views were due to his overwhelming but genuine patriotism (when Napoleon was striding the world like a Colossus), and along with it his idea of the possible leadership of the Germans in the noblest service to



mankind. Later times cannot indeed confirm his idea that children should be segregated from the adult world and live in communities of their own. Often his age found family influence on the child corrupt, but he was blinded by the age-influence to suggest entire abolition of family education. He erred (let us remember), if dogmatically we pass judgment on him, with Plato. Dr. Turnbull points out that Fichte does not carry us with him psychologically in thinking that the love of the good is innate in man so far as to think that every child wishes to be upright and good. The child is rather just healthy like a young animal. Dr. Turnbull admits gross exaggerations and over-statements in Fichte, as for instance, historically, as to the part played by Luther and by Germany in the Reformation movement. Nor can historical students accept the idea of the absolute supremacy of the State. Fichte, Dr. Turnbull allows, confuses the ideal State and the actual State. Fichte's isolated, self-contained school communities will be regarded as chimeras.

We must admit, with Herbart, that it is impossible to work in education according to Fichte's system. The fact remains, however, that these false and exaggerated ideas and blemishes in his writings "are easily explained . . . when we consider the desperate state of the times. Fichte's exalted aims, the peculiar difficulty of his task, his enthusiastic personality, and the fact that most of his pronouncements on education are those of an orator charged with the self-appointed task of persuading his indifferent and sometimes even hostile fellow-countrymen to undertake a laborious, difficult, and therefore unpleasant enterprise." Curiously enough, these shortcomings of Fichte might be said, essentially, to be due to taking "his standing-point in his own age and thus running counter to his own advice." So much for the negative side of the necessary criticism, so faithfully coming from Dr. Turnbull.

But on the positive side, we agree with Dr. Turnbull in affirming the significance of a man such as Fichte, who stood for the principle: The Actual must be judged by the Ideal.

We, therefore, express gratitude to Dr. Turnbull for bringing us face to face with so great a man of educational spirit as Fichte, and for doing it so ably and so attractively and with such full documentary material. The text occupies but 114 pages, whilst translations from Fichte's educational writings fill over 160 pages. There is a bibliography, but, unfortunately, no index. The book, otherwise, is a workmanlike piece of work. There is a certain timeliness in its production now when there is the centennial interest in Pestalozzi, for Fichte was drawn closely to the Swiss reformer, and did much to philosophize his ideas. And may we not say that Pestalozzi had contributed to make a philanthropic colour to Fichte's philosophy, the only possible one? The enthusiastic conception of universal education as almost a religion is a stimulus to to-day's best utterances with regard to international sympathy with all educational advance, which we rarely trace back to sources like Oberlin, Pestalozzi, and Fichte. But the more familiar we become with the facts of their life and thought, the more stimulus we shall derive for our own efforts. Dr. Turnbull we must therefore recognize has acted worthily of the educational world in bringing Fichte into the line of educational apostolic succession for English readers.

FOSTER WATSON.

## Book Reviews.

**Science and Ultimate Truth :** Fison Memorial Lecture, 1926 : by The Very Reverend W. R. Inge, C.V.O., D.D., Dean of St. Paul's. (London : Longmans, Green, 1926. Pp. 32. Price 1s. 0d. 2s. 0d. net.)

Dean Inge advocates Theism as the solution of the ultimate problems to which philosophy is led. In this lecture, to an audience primarily medical men, he reviews his thought in the light of modern science.

The sciences give truth, but not ultimate truth, about the universe. They provide a part of the picture, but not the frame. We go wrong when we forget either of these two facts. Without the results of science, we might put it, our philosophy is empty ; without the frame, our science is blind. And Dean Inge would not have us either empty or blind.

Now the materialism that science once stood sponsor for insisted that everything really existent was mere matter, motion, and energy, variously distributed. Man's ideals were nothing but the projections of his own mind, and of no cosmic significance whatever.

Materialism is the first kind of blindness, and in the Nineteenth Century many scientists strove to avoid it. They welcomed the view, derived from Kant, that knowledge gives only phenomena, and not reality. But they were thereby precluded from saying anything about reality. The things in which man is primarily interested, his ideals, which are for him his supreme clues to reality, they did not deny, but they relegated them to the sphere of faith ; and so made a chasm between faith and knowledge, which was detrimental to both faith and knowledge alike.

In modern science, materialistic tendencies are less strong, on account of the development of the sciences of biology and psychology. But it is not satisfactory, as Dean Inge points out, to accept a materialistic physics and a vitalistic biology. He indicates quite clearly two of the stumbling blocks in the way of a satisfactory solution of the problem : viz., the notions of evolution and of causation. The problem of evolution, he rightly notes, is precisely that of change, and the difficulty of comprehending how difficult this concept of real change is has been increased by our familiarity with mechanistic explanations in physics which put in place of change a mere rearrangement of entities that themselves do not change.

The world of mechanism is a world constructed on the model of the child's box of bricks. Realize this and you will see that in it there can be no real change ; look into it further and you will see that causality in the strict sense is absent just as much. Change, evolution, and causality are bound up together ; by compromising on the notion of change, as mechanism does, you cut yourself off from a satisfactory account of the other two.

Dean Inge sees all this so well that we cannot help regretting that he did not pursue the point further. Instead, he gives up. "Efficient causation," he insists, "cannot be discovered within physical phenomena." He speaks of "the untenable notion of inter-phenomenal causality" ; and adds, "we may be driven back upon the idea of a single creative First Cause as the only real cause in the universe."

Personally, I cannot regard this as anything but a premature giving up of the problem. Our problem is just to get a satisfactory notion of change, evolution, cause ; and Dean Inge seems to me to leave us as far from this as ever. My own feeling is that while modern biology compels us to go on making the attempt, most light on the problem will come from the reconstruction going on at the basis of modern physics : we must be content in the meantime to work at the problem.

On the main thesis of this lecture I have no space to dwell. I should like to note merely the important point of the insufficiency of the notion of human progress in this world, in view of the scientific fact that man and all his works will one day be extinct ; with the resulting conclusion that we cannot make a place in the universe for human values merely by projecting them into the future. The way out is found in the insistence that scientific knowledge is itself the result of the endeavour to understand the nature of things under the influence of certain ideals, valued by men : thus in scientific "fact," fact and value interpenetrate. But the ideals of science are not the only values, and the others—those of Beauty and Goodness—have as much reality as that of Truth, under which the man of science works, and the nature of the universe is revealed in all three.



The problem to which this situation gives rise, viz., of how we can find a place for Beauty and Goodness, even granting that science is the result of some sort of human valuing, Dean Inge proposes to solve by regarding the world in space and time as the expression, under the conditions of space and time, of the energizing activity of Truth, Beauty and Goodness, which are themselves the attributes under which God has chosen to reveal himself in the timeless eternal real world.

God himself, he insists, is not the world—not even the timeless eternal world of Truth, Beauty, and Goodness fully realized ; but His nature overflows into, expresses itself in, this timeless eternal world ; which on its side passes into outward expression as acts in space and time, giving rise to the world in which we live.

It is worth while to read this paper in conjunction with the author's "Confessio Fidei," in the second series of "Outspoken Essays," and with his essay in the first volume of "Contemporary British Philosophy," edited by Professor Muirhead. You may disagree with his conclusions, but you will find yourself as you read less inclined to accept certain current doctrines that have almost become truisms.

L.R.

**Social Progress and Educational Waste :** by Kenneth Lindsay. With an Introduction by Viscount Haldane. (George Routledge and Sons, 1926. Pp. 215+vii. 7s. 6d.)

This is a capital piece of statistical investigation into the educational ladder, undertaken at the London School of Economics with the help of funds from the Barnett Fellowship and the Ratan Tate Foundation. Briefly stated, Mr. Lindsay's conclusion is that our vaunted boast of a ladder which gives fair opportunity for children of talent in our democracy to rise is a feeble boast. He has investigated returns from London, from Oxfordshire, and from three large boroughs in the north of England, making visits as well as tabulating the returns, and in a final chapter he reviews the returns of examinations for scholarships to secondary schools made by many other local education authorities.

To the reader of this journal Mr. Lindsay's conclusions will be more or less familiar. Every teacher who has anything to do with "the ladder" knows that children of poverty are very rarely permitted to climb it, even if they have had the luck to attend a good primary school where they can be prepared for the competition. But Mr. Lindsay does not write so much for teachers as for administrators, who seldom face the facts. He quotes two recent utterances by public men—Lord Birkenhead on the one hand and Alderman Conway on the other, to show how diametrically opposite opinions are entertained.

It is time, surely, that the teachers themselves in secondary schools as well as universities sought to educate the public to a better apprehension of the facts about secondary schooling. What exactly do we mean when we select 5 or 10 per cent. of the leavers from elementary schools as "able to profit" by the process? We mean that the existing type or types of secondary school are adapted by their curriculum and atmosphere to welcome this 5 or 10 per cent. We cannot mean that the rest, the 90 per cent., would be "unable to profit" if they continued to receive the benefits of appropriate ministration in education? We must not extend these questions.

Everyone concerned in the study of English education in relation to national progress, whether as a teacher or a civil servant, will need to make acquaintance with the facts contained in this volume, and there will be few who will contest Mr. Lindsay's conclusions, unless they belong to the reactionaries (to be found, alas, in all political parties) who do not sincerely believe in the extension of schooling.

J.J.F.

**The Culture of Ancient Greece and Rome :** by E. Poland, E. Reisinger, and R. Wagner. Translated by J. H. Freece. (George Harrap and Co., Pp. 319. 21s. 0d.)

This well-printed and fully-illustrated book would form a useful companion to classical studies. Its 136 illustrations, admirable reproductions, make it especially useful as a guide to the art and architecture of Greece and Rome. The treatment of literature and philosophy is necessarily brief, but gives just what is most needed by a young student of Greek or Latin and also serves as a useful introduction to the study of the ancient world by one who is not learning either of those languages.

**Learning to Read a Foreign Language, An Experimental Study :** by Michael West. (Longmans, Green and Co. Pp. 56. 1s. 8d. net.)

This little book contains an account of a series of experiments, in regard to the teaching of reading ability, undertaken among Bengali boys requiring a reading knowledge of English for informational purposes. The desirability of investigating experimentally methods of acquiring the ability to read a foreign language accurately and rapidly was pointed out in the Government Report of 1918 on "Modern Studies." The need is still urgent, though the amazing development since then of international communication by means of the broadcasting of the spoken word is daily enhancing the value for informational purposes of the ability to understand the spoken language.

Mr. West's study deals with special conditions, those of the child whose mother-tongue is not one of the great cultural languages and who is therefore bound to become to a certain extent bilingual, but several points of general interest to any language-teacher emerge from it. Mr. West's experiments showed "transference" of improvement in reading ability in one language, and he points out that "before beginning to teach a child to read a foreign language it is necessary that he should be made fully efficient in the reading of his mother-tongue." He aimed at transforming his pupils from childish observational readers into the adult searching type both in their own and in the foreign language.

The reading material used by the author was specially constructed by him, the choice of vocabulary being governed by the relative frequency of words as shown by Professor Thorndike's list of the 10,000 commonest English words, allowance being made for inconsistency between commonness and indispensability and for other factors. The two chapters on the construction of reading-books give a set of most valuable criteria by which such books may be judged.

The rate of progress in reading ability claimed by Mr. West for pupils learning by his method is remarkably in advance of the average. Possibly in the case of a more highly inflected language than English progress would be less rapid. Mr. West does not expressly state in what the test of the English course outside the reading work consisted, nor are we told to what extent the pupils' passive knowledge of the language was accompanied by an active command of it.

C.I.W.

**An Outline of Abnormal Psychology :** by William McDougall. (Methuen and Co. Pp. 572. 15s.)

In this book Dr. McDougall essays to bridge the gap between academic psychology and the study of neuroses and psychoses. The gap is wide, he thinks, because the former has been developed by men untrained in medical science, and the latter have been studied chiefly by medical men with no thorough training in systematic and general psychology. For the functions of a liaison officer Dr. McDougall is eminently fitted in view of his extensive clinical experience during the war at Netley Hospital, and he has produced what is undoubtedly the best book in English on the subject, treated as a means of throwing light on the nature and functions of the normal mind. For this is Dr. McDougall's main aim throughout, and the way in which he correlates the special doctrines of Freud, Adler, Janet, and other great psychiatrists—so far as he himself accepts them—with general psychology, and especially with the doctrines he himself has advocated so clearly in his "Social Psychology" and "Outlines of Psychology," will probably be to readers the most valuable aspect of this volume: though the clear exposition and trenchant criticism of so much medical psychology is also of great value. Of special interest, perhaps, are the discussions of hypnosis, suggestion, repression, anxieties, and fears.

One word of warning we think should be uttered to the student who thinks that abnormal psychology has the last word in explaining the human mind. Undoubtedly it can throw a flood of light on normal processes, and can be very suggestive in guiding the analysis of normal processes. Sometimes, for example, it can give conclusive proof that a process A can take place when a process B is found impossible; but we cannot assume that because A takes place without B under abnormal conditions, then under normal conditions A is not at all influenced by B; and the same may be said about A linked with B in abnormal conditions but not in normal.

C.W.V.



**Origins of Education among Primitive Peoples :** by W. D. Hambly, B.Sc.  
(Macmillan. Pp. xx+432. 25s. net.)

The primary object of this book is to help the missionary and administrator to a wiser dealing with primitive races. The mistake has usually been to suppose that the savage is without morals, and that his customs and ritual are meaningless. Against this position Mr. Hambly proves conclusively "that nowhere is there entire absence of ideas of morality," and that some explanation, very sensible from the primitive point of view, can be found for the most grotesque ceremonies.

It has, however, considerable interest for the student of educational theory. "Primitive" man is apt to figure in psychological discussions; do we usually know anything about his instincts and habits? Mr. Hambly shows us the primitive as he really is in all parts of the world; and his book should be consulted by anyone who may have occasion to refer to "savages." To give one example, any treatment of play requires some account of its forms amongst simple peoples; this subject is admirably dealt with by Mr. Hambly. (Incidentally, he finds similar "plays" in different parts of the world. His explanation tends towards transmission rather than racial psyche, though the grounds do not seem adequately stated.) Or, again, the education of the adolescent should be studied in its early types, which take the form of some sort of initiation, attended usually by torture—the voluntary endurance of pain. It may be suggested, quite seriously, that the examinations to which we subject our adolescents derive directly from the barbarities described by Mr. Hambly.

From the nature of the work—its collection of material from all over the world—there is considerable repetition; so that it is more suitable for reference than continuous reading. Much can be learnt from the illustrations alone, since these are numerous and beautifully produced.

F.A.C.

**Vocational Guidance and Counselling :** by A. H. Edgerton. (Macmillan. Pp. 213. 7s. net.)

The attention paid in the United States to vocational education is indicated by the fact that the author of this book is Professor of Industrial Education. The book itself reveals the fact that the United States is far ahead of Great Britain in attacking the problem of vocational guidance. In a survey of 143 cities, the "stressing" of educational guidance was found in 82 per cent. of the junior high schools, 88 per cent. of the senior high schools, and 87 per cent. of the part-time schools; but with regret the author notes that only 41 per cent. of the junior high schools and 21 per cent. of the senior high schools and 67 per cent. of the part-time schools pay special attention to "the testing of pupils' abilities and interests in various ways."

The book treats not so much of vocational tests as of the nature and extent and organization of vocational guidance, and of the training of vocational counsellors. It does this in a thorough fashion and it stresses the importance of the spread of reliable information as to various trades and occupations.

C.W.V.

**A First Laboratory Guide in Psychology :** by Mary Collins, M.A., B.Ed., Ph.D. and James Drever, M.A., B.Sc., D.Phil. (Methuen and Co., Ltd. 8vo. Pp. viii+108. 5s. net.)

In this little book, a supplement to their "Introduction to Experimental Psychology," reviewed in our issue of June, 1926, the authors sketch out thirty selected experiments, covering some of the sensory and higher mental processes, which can be carried out in the main with a minimum of apparatus. The intention is so to present the experiments—apparatus, procedure, etc.—that the student may be able to carry them out for himself, without help from the instructor. But this he will not always find easy, unless he has access to the "Introduction" also. A little less simplification would have been an advantage. Several of the more recent experimental procedures—with regard to Conditioned Reflex and Psycho-galvanic Response, for example—are described. There is an unfortunate misprint of a formula in the short

"Statistical Treatment of Data."  $R$  is given as  $\frac{1-6\leq g}{N^2-1}$ ; which is, of course, printed correctly in the "Introduction."

F.A.

**International Journal of Psycho-Analysis**, Vol. VII, Parts 3 and 4. In commemoration of Professor Freud's seventieth birthday. (Ballière, Tindall and Co. Pp. viii+239.)

This commemoration volume contains as a frontispiece a photogravure of Sigmund Freud, and an address to him with an estimate of the value of his work, by S. Ferencsi. Among some dozen other articles may be mentioned especially that dealing with "The Origin and Structure of the Super-Ego," by Dr. Ernest Jones.

**Modern Psychology and Education** : A Text-book of Psychology for Students in Training Colleges and Adult Evening Classes : by Mary Sturt, M.A., and E. C. Oakden, M.A. (London : Kegan Paul. Pp. 320+xxiv. 7s. 6d. net.)

This book is divided into three parts : the first, under the general title of "The Direction of Mind," deals with Instinctive Tendencies, Emotions, and Sentiments ; the second, "The Tools of Mind," deals with Sensation and Perception, Attention, Memory, Imagery and Imagination, Thought and Habits ; in the third, "The Conduct of Mind," Moral Training, Disorders of Adjustment, Mind and Work, Happiness, are discussed.

Each chapter is followed by a useful set of topics for discussion and valuable suggestions for further reading.

As those who are acquainted with the earlier works of the two collaborators will expect, the book is extremely well written, with a wealth of illustrative material gathered from many sources.

It is, perhaps, difficult for the book entirely to meet the diverse demands of the two classes of students for whom it is intended. It will probably be more satisfactory to the training college student ; but, as the reviewer can testify, certain chapters may form the basis for lively discussion in W.E.A. classes.

The book should find a ready market, and students seeking an interesting and stimulating introduction to psychology may be advised to read it.

One point may be mentioned so that attention may be devoted to it in a second edition. On page 24 there is a footnote referring the reader to a "glossary" for definition of technical terms ; this is, unfortunately, missing, at least from the reviewer's copy.

**First Studies in Dramatic Art** : by Enid Rose.  
(W. B. Clive. Pp. 231. 5s. 6d. net.)

The establishment by the University of London of a diploma in dramatic art has led Miss Rose to put into book form some of the material which she offers to students of the Royal Academy of Dramatic Art. The chapters are not designed to expound a theory of the theatre but to help the budding actor to steer a course through "the labyrinth of literary and other material, . . . to indicate the factors by which the many branches are inter-related." There are three long chapters : "Laws of Expression in General," "Laws of Expression in Gesture," "Laws of Expression in Speech" ; these are followed by a historical sketch of the development of the drama. The present reviewer looks at this book from the standpoint of the teacher, whom it affects in two ways : as a student of literature and as a guide to children in their early efforts in playwriting and in performance. From both these points of view Miss Rose's survey can be heartily commended. Her reading is wide and her command of psychology is adequate ; the choice of Paul Renouard to provide illustrations is most happy. This brief review cannot attempt either to criticize the author's exposition or even to outline her doctrines. One point only can be emphasized ; her insistence, in the historical chapter, on the scene as the starting point for all sound performance : she shows how great plays like "The School for Scandal" were built up from rehearsals : "begun on a sketch (a scenario) before ever it was written." Teachers should pay special attention to this point, for it is evident that when children endeavour to give dramatic form to a story they begin in much the same way : the words come last. For fear of misunderstanding let us add that Miss Rose has nothing to do with amateur acting and pretends to be only half aware that there is "a tide of amateur interest." The amateurs will forgive her if she will continue to instruct them with the competence that is here displayed. One hopes that her next book, and the next edition of these First Studies, will be provided with an index.

J.J.F.



**Printing and Book Crafts for Schools** : by Frederick Goodyear.

(George G. Harrap and Co. Pp. 214. 10s. 6d.)

This admirable book of use to teacher and pupil alike, and of great value to the library of any school which desires to take up printing and its allied crafts as a form of educational handwork, comprises many useful and valuable suggestions, and is a means of giving a clear insight into the domain of everyday printing. It covers a wide range of subjects, from a brief history of printing to the completion of an actual book. The author gives comprehensive chapters on illustrating, manuscript-writing and lettering, and the technique of block-cutting, stencilling, bookbinding, and stick printing, etc. The technical illustrations are all that could be desired and solve any difficulties which may arise. Mr. Goodyear gives definite instructions for the construction of an actual printing press which is well within the scope of any school workshop. The suggestions for the selection of type and other details have been carefully considered, and should stimulate both teacher and pupil with fresh ideas and lead to an appreciation of and demand for good printing. In any further edition of this book, it is hoped that the author will devote a chapter to the necessity of good lay-out and spacing, together with some instruction on colour harmony as applied to linoleum printing and stencilling, with more convincing examples of sound design and harmonizing colour in this respect, and thus add to an already excellent production.

W.E.C.

**The Active French Course, First Year** : by Frank A. Hedgcock. (University of London Press ; Pupil's Book, pp. xii, 144 ; 2s. 6d. Teacher's Book, pp. 32 ; 1s. 6d.)

The title of this new First Year French Book is explained by the author in his introduction. He wishes to save the pupil from a too zealous teacher by stimulating him to effort on his own behalf. It is doubtful whether any text-book can entirely secure these ends, and, on a first survey, the present book would still appear, like many of its predecessors, to leave considerable scope for the unwise teacher. The teacher who wishes to get the best results from this book will bear in mind the author's intentions and allow for a good deal of memorizing and of self-expression by the children. The vocabulary seems well-chosen, although possibly a total of nearly 900 words is rather large to acquire in the first year. An index providing for systematic revision of grammatical points would perhaps be a desirable addition to a book which aims at minimizing the teacher's intervention.

Material for oral work preliminary to the text-book is supplied in a companion Teacher's Book, which provides for the teaching of French sounds *pari passu* with vocabulary. This method has the advantage of introducing the children at once to the study of the language proper, and thus exploiting their interest in the new subject, but in the very earliest lessons one may doubt the wisdom of teaching first an approximate pronunciation of such phrases as "Ouvrez la porte," which are to be used orally by the children before they are taught the accurate pronunciation of the sounds contained in them. One wonders why the children should be able to pronounce the sum of the sounds if they cannot pronounce the individual sounds. Surely a minimum of preliminary phonetic instruction is desirable.

The spirited drawings by Miss Gladys Rees which illustrate the text are a valuable feature of the book.

C.I.W.

**The Art of History** : by J. B. Black. (Methuen. Pp. 188. 7s. 6d. net.)

Too many historians have specialized until they fear to trespass into style or steal a look at centuries. The reaction has come with the wide views of Mr. H. G. Wells, the massive synthesis of M. Halévy, and the polished history of Mr. G. M. Trevelyan. Hence the opportuneness of Professor Black's studies on Voltaire, Hume, Robertson, and Gibbon ; for, as he says in his preface : "In the eighteenth century history was written, not by scientists, but by humanists," so that, "under their ægis it became a complete and satisfactory culture in itself." Style was of the essence of these four writers. Voltaire and Hume, being philosophers, "used" history, and therefore denied life to much of the past. The chaste accuracy of Robertson found interest even in the Middle Ages, for he understood "development." Both he and Gibbon could make the past live, without obviously intruding the present ; and in Gibbon Professor Black finds history made perfect.

The essay on Hume is diffuse ; but those on Robertson and Gibbon show grasp. The former is really brilliant.

"The structure of his sentences is French," Dr. Johnson said of Hume. Perhaps that accounts for Professor Black's tiresome *penchant* for a cul de sac whose only escape is *le mot français*.

Altogether we thoroughly recommend this book, which should do much to make history a vital part of education.

I. McM.

**The Scripture Lesson in the Elementary School :** by Helen Wodehouse, D.Phil. (Student Christian Movement, 1926. x+115 pp. 3s. and 2s. net.)

Professor Wodehouse has packed more wisdom into her small volume than is contained in many larger tomes. She discusses a difficult practical problem with the insight and breadth of view which we associate with her writing, and there are few teachers responsible for scripture or divinity lessons who will not find stimulus and guidance in her pages. For her book is throughout based upon the actual experience of teachers and of taught. It begins with a brief account of the children's religious experience which instruction should interpret and extend, and in later chapters we are frequently reading the records made by teachers of their own methods and experiments. We, therefore, breathe the air of the actual classroom. There is little abstract theory and no vague exhortation, but the experiences narrated are explained or illuminated by the aid of general principles applied with confidence and judgment. Difficulties are fairly faced and there is no beating about the bush.

By dealing on these lines with the schools' lessons on religion, Professor Wodehouse has, it seems to me, shown us a plan which books and lectures on teaching methods would do well to follow. Any exposition of the art of teaching should aim in the first place at interpreting the actual experience of teaching. This critical interpretation will then enable us to see ways in which we can make our teaching more effective. It is an interesting example of our academic conservatism that while in our Training Colleges we tell our students to base their teaching on their boys' experiences, books on method and our own instruction too often follow the opposite method of abstract dissertation. By avoiding this error Professor Wodehouse has given us a book which it is a pleasure to read. H.B.S.

**English Composition** [with chapters on précis writing, prosody and style]: by William Murison, M.A. (Cambridge University Press, Revised Edition, 1926. Pp. x+430. 6s.)

The first edition was published in 1910, and since then numerous reprints have testified to the success of the work. The present edition contains some fresh material, and the whole has been carefully revised. Teachers and students will continue to find the book useful in preparing for such examinations as the Joint Matriculation and the Cambridge University Local. Specimen questions from the English papers of these examining Boards are included at the end of the volume. The aim of the book is not to teach literary appreciation or criticism but to help students to write correctly. Nevertheless, it is to be regretted that quite so much space is given to the detective type of exercise in which bad writing is to be scrutinized and corrected. Exception might also be taken to Chapter VII, which seems to recognize no distinction between rhythm and verbal melody. Work with this kind of practical manual should always be made strictly subsidiary to the intensive study of some of the great masters in prose and poetry. E.M.J.

**A Book of French Verse :** collected by St. John Lucas. New and enlarged edition. (Clarendon Press. Pp. 302. 4s. net.)

Teachers and others who already know this admirable introduction to French poetry will welcome a new edition, which adds poems by Corbière, Guérin, Hérédia, Sully Prudhomme, Rostand, Samain, and Verhaeren. There are living poets whom one reader or another might wish included, but Mr. Lucas appears very properly to wait for a certain "recul" to justify his choice. Of the seven dead poets now added Corbière, in spite of the tributes to him of brother-poets such as Verlaine, might perhaps have yielded pride of place to a poet so much more widely known as Coppée. The useful introduction and note on French versification are reprinted from the former edition.

**English Life in the Middle Ages :** by L. F. Salzman. (Oxford: University Press. Pp. 287. 7s. 6d. net.)

This book deals especially with social aspects of the life of the Middle Ages. Town, country and home life are represented vividly and a good introduction to the study of the literature, art, science, and industry of the period is given. The book would form a most useful supplement to the usual class history text-book for upper forms of secondary schools or for students in training colleges.



**A History for British Schools :** by D. C. Somervell. (Bell. Pp. 287 to 582. 3s.)

Volume 2 of the Author's 4-vol. series discusses, with fascinating common-sense, the period 1066-1714. No gaps are felt, nor is there any overcrowding. Three "books" of equal length cover the period. Book IV explains the Middle Ages. Each century has one section, and each section is treated under headings such as "The Scottish and French Wars," "Black Death and Peasants' Revolt," "King, Lords, and Commons," "Froissart, Chaucer, Langland, and Wycliffe." In Book V the Elizabethan Settlement is particularly well explained. In Book VI (the Stuarts), the Restoration is introduced by an excellent account of the thirty years' war and Rise of France.

This history is a panorama of time. The style is bright and would rouse even the sleepest with the description of Edward I's Parliament: "A great jury of the whole nation to hear the national case and give its verdict in the form of supplies."

**The Legacy of the Middle Ages :** edited by C. G. Crump and E. F. Jacob. (Oxford : Clarendon Press. Pp. 550. 10s. 0d. net.)

This volume comprises a collection of essays on the most important aspects of the thought and general culture of the Middle Ages, by various writers specially qualified to deal with some particular topic. Of special value to many readers will be Professor Powicke's chapter on "The Christian Life"; Mr. C. R. Harris's on "Philosophy"; Professor Adamson's on "Education"; Miss Eileen Power's on the "Position of Women," and those on "Law": though it is, perhaps, invidious to select when all the topics are of such interest and the authors so competent. The book is handsomely illustrated, and forms in all a most comprehensive treatise for senior students.

**The Givers :** Notes and Essays on Catholic Education : by F. H. Drinkwater. (Burns, Oates and Washbourne, 1926. ix+252 pp. 6s.)

The editor of the *Sower* has reprinted in this volume such of his contributions to his paper as seem to him to have more than a passing interest. The result is a book of notes and short essays on a great variety of educational topics, from school furniture to the Kingship of Christ in the hearts of the young. As readers of the *Sower* know, Mr. Drinkwater is at once a good Catholic and a wise educational reformer. He believes that true religion and enlightened methods of education should go hand in hand and support each other. In the light of this conviction he writes about many aspects of school life with insight and a sane enthusiasm which should commend his book to many readers.

**First Steps to Parnassus :** by W. E. Williams. (University of London Press. Pp. xii+174. 3s. 6d.)

The author of this book attempts to outline the principles of poetic expression for the benefit, not of poets, but of those "whose cradles the Muse of Poetry did not bless." Included in this class are amateur verse-makers, those who seek to achieve a good prose style, and those who find a real if somewhat uncritical pleasure in reading poetry. Questions of rhyme and rhythm are clearly discussed and further well-illustrated chapters indicate the lines along which a study of words and the more usual figures of speech may prove useful. A large selection of exercises adds to the practical value of the book. The chief "modes of English poetry" are outlined in the concluding chapter. The necessity for compression of material is perhaps responsible for the somewhat dogmatic and at times inadequate treatment of this wide subject. The short account of eighteenth century poetry at the beginning of Chapter 4, perhaps for the same reason, is open to the same charge. Incidentally, it is worth noting that Wordsworth's "Daffodils" grew by Ullswater, not Grasmere.

**Latin Prose :** by T. E. J. Bradshaw, M.A., and G. G. Phillips, LL.B. (Longmans, Green and Co. Pp. viii+134. 3s. 6d.)

A book for school certificate forms covering the ground of North and Hillard, with hints that are fuller than theirs though not so cumbrous as those of Bradley.

**Readings from the Great Historians.** Vol. 4.

**Early European History to the Fall of Rome :** by Alexander Duthie. Vol 5.  
**European History from the Fall of Rome to the Eve of the French Revolution :**  
 by D. M. Ketelby. (George Harrap and Co. 4s. 6d. each.)

Selections such as these combine for school purposes the advantages of a source book (especially the earlier volume, which consists largely of translations from classical authors) and of the historical masterpieces in providing that imaginative material without which history is mere information. In the hands of the teacher they will serve as a mine of illustration.

**England Before the Norman Conquest :** by R. W. Chambers. With a foreword on Roman Britain by M. Craig. (Longmans. Pp. xxvi+334. 10s. 6d. net.)

The University of London intermediate source-books of history enhance their reputation in this seventh volume. The discussion of available sources at the beginning of each chapter gives to the work a coherence and educational value which most source-books entirely lack. The extracts are of satisfying length and are widely representative. Professor Chambers has introduced a little philology into his introduction and humour into his footnotes, and concludes an excellent book with an index.

**Disciplina :** by W. H. S. Jones. (Cambridge University Press. Pp. 68. 2s. 6d.)

A book one reads with pleasure and gratitude. Its wisdom and sincerity are the mark of that combination of experience and matured reflection which alone inspire confidence. It is chiefly concerned to show that the principle of " following the child " fails no less in the developing of character than did the old system founded on fear and repression. " I have chosen the Latin word disciplina to denote what I take to be the chief function of the educator. All that uplifts a man is included in that term, and it emphasizes the often-forgotten truth that training and learning are essentially one."

**The Pageant of Greece :** by R. W. Livingstone. Abridged Edition. (Clarendon Press. Pp. 240. 2s. 6d.)

Two objects may be served by this book. It may be employed either with elementary students of the Classics to give them a foretaste of the riches in store for them, or with those who will not study the original texts as a revelation of the greatness of the Greek spirit. Mr. Livingstone has produced the abridgment of the original selection to bring the price within the range of schools, and the publishers are to be congratulated on the value they give for the money.

**Some Latin Essentials for the Common Entrance Exam.** (Longmans, Green and Co. Pp. 156. 3s. 6d.)

A useful collection of exercises on the simpler type of subordinate clause, followed by a tabulated list of " catches " and fifty simple unseens.

**Via Cæsaris :** by A. A. Hughes, M.A. (Longmans, Green and Co. Pp. vi.+66.)

Three hundred and thirty Latin sentences graduated in difficulty from simple sentences to substantial clauses and followed by short passages from " Cæsar." It might occupy the second year of a school Latin course as an instrument of drill.

**Initium : A First Latin Course on the Direct Method :** by R. B. Appleton, M.A. (Cambridge University Press. Pp. viii+137. Second Edition, revised. 4s.)

An interesting book as illustrating the ingenuity of those who attempt the oral method of teaching a dead language. The sketches are an ancient device which it is a good thing to revive. A new section has been added consisting of English sentences to be turned into Latin. " The occasional use of such sentences," says the author, " is advisable even for those teaching on the direct method."

**Latin Verse Unseens :** selected by A. E. Jackson, B.A. (George Harrap and Co. Pp. 79. Paper cover, 1s.)

A useful little volume with good notes on metre.



**A Junior Geometry :** by A. W. Siddons and R. T. Hughes. 4s.

**Practical Geometry :** by A. W. Siddons and R. T. Hughes. 4s. (Cambridge University Press.)

These two volumes, based on the well-known series of geometry books by Godfrey and Siddons, will undoubtedly become as popular as the earlier books.

"Practical Geometry" is now issued as a separate volume to meet certain specific demands, and full use is made of experimental and intuitional methods. The companion volume, "Theoretical Geometry," is to be used *pari passu*, as a rule, and the two books will carry the non-specialist beyond the school certificate stage.

"A Junior Geometry" is a successful attempt to blend practical and theoretical work for pupils up to about 13 years of age.

**A Book of Church History :** by Susan Cunnington. (Longmans. Pp. 262. 3s. 6d.)

"With the Holy See as centre," Miss Cunnington gives to the "young and the general reader" a history of the Catholic Church up to the present day. The book would offend all but the most ignorant "Catholic." Huss is "condemned." Alexander VI merely divides the new world, deals with Savonarola, and is related to St. Francis Borgia. Queen Elizabeth is a bloodthirsty and apparently unprovoked persecutor. The Renaissance—"The capturing for the sphere of religion of whole provinces of thought and achievement at the cost of the temporary loss of the spiritual character of the rulers of the Church." For Italy to destroy Austrian rule is a "Patriotic Resolution": to abolish the Pope's Temporal Power is a "secular aim."

Even the index of this book is untrustworthy.

**A History for British Schools. Book I: Foundations :** by D. C. Somervell. (Bell and Sons. Pp. xiii+284. 3s.)

**An Outline of History for British Schools :** by D. C. Somervell. (Bell and Sons. Pp. vii+54. 1s. 6d.)

The principle on which this series is being written is a compromise between the claims of national history and world history, and accords therefore with the Board of Education recommendations on the teaching of history. "History for British Schools should be those portions or aspects of history which most concern a British boy or girl to know something about." This introductory volume is sound and ably written and deserves the attention of every teacher on this subject.

**The Building of Europe :** by J. S. Hoyland, M.A. (Oxford University Press. Pp. 176. 2s. 6d.)

Mr. Hoyland endeavours in the course of 171 pages to abstract from the course of history the main ideas embodied in the political structure of modern Europe. History teachers must be grateful to Mr. Hoyland for his suggestive experiments in the teaching of their subject, and cannot ignore, though they may not agree with, the method of simplification which this volume demonstrates even more clearly than did "The History of Civilization."

**Education as World-Building :** by Thomas Davidson. (Humphrey Milford. Pp. xxxiii+58. 6s.)

This little book is a lecture by a scholar whose career and personality are an inspiration even greater than the printed memorials of his work. Education is here treated as the process of assisting the young in the task of building in true symmetry their universes of concept and desire. The essence of Davidson's philosophy is Socratic—the business of man is to apportion to things their proper value, and it is to this end that teachers must adapt their science of means.

**A History of Europe from the Reformation to our Own Day :** by Ferdinand Schervill. (Harraps. Pp. 728. 10s. 6d. net.)

This is a reliable text-book on political history, containing in addition some excellent chapters on the more peaceful aspects of civilization. The book is well proportioned, includes twenty-four clear maps, bibliographies at each chapter's end, and an interesting view of present day Europe. Professor Schervill is American: hence such phrases as a "developmental movement," a "tidy sum," etc.

**An Introduction to Mechanics :** by J. P. Clatworthy. (London : Methuen and Co. Part I : Statics, Pp. 205+vii. Part II : Dynamics. Pp. 225+vi. 8s. 6d.)

Mr. Clatworthy, who lectures in mathematics in the University of Reading, has written an interesting and thorough introduction to mechanics, especially "for beginners who seek to include a knowledge of mechanics in a foundation for the study of science or engineering." The book "covers as much of the theory of mechanics as it is expedient to learn without a knowledge of the calculus." The treatment is, in the main, stereotyped, but undoubtedly the volume will take its place as one of the many useful text-books for preparing students for examinations.

**Mechanics and Applied Mathematics.** Part II : Applied Mathematics ; by W. D. Hills. (University of London Press. Pp. 248. 5s.)

Part I of this work, dealing with mechanics to the standard required for the London Matriculation Examination, was reviewed in *THE FORUM OF EDUCATION*, Vol. IV, No. 1, February, 1926. This volume carries the subject to the intermediate stage, and covers that syllabus formally but, from the point of view of the examination, effectively. A short appendix is devoted to the Slide Rule, some of the elementary results in the Calculus, and Planimeters.

**Practical Physics :** by T. G. Bedford. (London : Longmans, Green and Co., Ltd. Pp. 425+x. 10s. 6d. net.)

Mr. Bedford, demonstrator of Experimental Physics in the Cavendish Laboratory, has given us in this volume the rich fruit of his experience with students in their first year. "The present volume has been compiled by expanding and often re-writing the MS. notes prepared for use in the laboratory."

The scope of the book is therefore that of an elementary course, but it includes Mechanics and Properties of Matter, Heat, Light, Sound, Magnetism and Electricity. Most of the apparatus needed is simple, and many of the experiments may be conducted in elementary laboratories. Additional exercises are added to each section.

The book will be a useful addition to the laboratory shelves in schools and colleges.

**The Purpose of Education :** by St. George Lane Fox Pitt. (Fifth Issue. Cambridge University Press. Pp. 94. 4s.)

This is a cheaper reprint of the edition of 1924, revised with some additions, of which the chief is an *excursus* on the question of currency reforms. The book remains an aggregation of apophthegmata whose terseness and inconsequence invalidate their undoubted wisdom.

**The British Empire :** A Study in Colonial Geography : by Albert Demangeon, translated by Ernest F. Row. (Harrap. Pp. 299. 7s. 6d. net.)

This is an excellent translation of Professor Demangeon's *L'Empire britannique*, which gives a brilliant picture of the Empire's growth and present position. Professor Demangeon sees the Empire's history with a Frenchman's clearness and an Englishman's sympathy.

**The League of Nations at Work :** by Professor Philip Noel Baker. (Nisbet and Co. Pp. xvi+135. 3s. 6d.)

This excellent little sketch will serve as a general introduction to those not familiar with the subject, but is mainly adapted for the young whose interest in the world of political organization is just dawning. It is the very book for school branches of the L.N.U.



OTHER PUBLICATIONS RECEIVED.

**Tales of Action** : edited by V. H. Collins and H. A. Trebler. (Oxford : Clarendon Press. 2s. net.)

An admirable selection from the writings of Scott, Southey, Edgar Allen Poe, Dickens, Kingsley, Stevenson, Conan Doyle, and others.

**Anton Reiser** : by Carl Phillipp Moritz. (Oxford University Press. Cloth, 2s. ; Leather, 3s. 6d. Pp. 447.)

A translation of a famous German novel, which more resembles and, indeed, almost constitutes an autobiography of the writer, at least of his youth. Its psychological nature makes it of great interest to students of adolescence.

**Anatole France : Le Petit Pierre** : edited by T. H. Clarke. (Sidgwick and Jackson. Pp. 115. 2s. 6d.)

**Eugène Brieux : Blanchette** : edited by H. A. Smith and H. M. Langer. (D. C. Heath and Co. Pp. 91.)

**Guy de Maupassant : Cinq Contes** : edited by J. B. Patterson. (Oxford : Clarendon Press. Pp. 61. 1s. 3d.)

**Contes de Moyen Âge** : edited by T. B. Rudmose-Brown. (Oxford : Clarendon Press. Pp. 69. 1s. 3d.)

**Six Little French Plays** : by Edith C. Stent. (Methuen and Co. Pp. 22. 1s.)

**Judith Gautier : Memoires d'un Éléphant Blanc** : edited by Emily A. Crosby. (Sidgwick and Jackson. Pp. 69. 2s.)

**Molière : Les Précieuses Ridicules** : edited by H. Ashton. (Longmans, Green and Co., Ltd. Pp. 43. 3s.)

**A Primer of Roman History** : by Alexander Duthie. (George Harrap and Co. Pp. 167. 2s.)

A very serviceable introduction to Roman History suitable for matriculation forms. The note on Roman Britain should either be incorporated in the text or made more informative and illustrated by a sketch.

**A. Dumas : L'Histoire d'un Casse-Noisette.**

**H. Guy : La Blanche Nef et La Poupée de Tanagra.**

**Erckmann-Chatrian : La Montre du Doyen ; Le Vieux Tailleur.** (Edited by T. H. Bertenshaw. (Longmans, Green and Co., Ltd. 4d. each.)

**Coriolanus** : edited by G. B. Harrison and F. H. Pritchard. In the New Readers' Shakespeare Series. (George Harrap and Co. 1s.)

**Little Gem Poetry Books** : I, II, III, 6d. each ; IV, 8d. Edited by R. K. and M. I. R. Polkinghorne. (G. Bell and Sons, Ltd.)

**Longer Modern Verse** : edited by Edward A. Parker. (Oxford : Clarendon Press. Pp. 136. 2s.)

Most anthologies of modern verse give only the shorter poems. This book gives one of the longer poems of each of some score of poets of the present day.

**Selections from the English Poets** : Books III and IV : by C. J. Hall. (Harrap and Co. 1s. 6d.)

**Dryden and His Poetry** : by Allardyce Nicoll. (Poetry and Life Series : George Harrap and Co. Pp. 149. 1s. 6d.)

## BOOK REVIEWS.

**Goldsmith's Essays** : selected by A. H. Sleight. (George Harrap and Co. Pp. 285. 2s. 6d.)

**The Grip-Fast English Books** : compiled by F. A. Forbes. Book V : "The Spirit of Chivalry" (2s. 3d.). Book VI : "The Spirit of Literature" (2s. 6d.). (Longmans, Green and Co., Ltd.)

Further volumes of the series already noticed in this journal.

**A Second Round of Tales** : edited by N. Henry and H. A. Treble. (Oxford University Press. Pp. 192. 2s.)

**Reading and Thinking** : Book III : edited by Richard Wilson. (Thomas Nelson and Sons. Pp. 208. 2s.)

A collection of stories and poems suitable for children in an infant school, with questions and set work on each, intended to stimulate thought about what has been read.

**Common-sense Grammar** : by P. A. Barnett. (Christophers. Paper, 7d.; Limp Cloth, 10d.; Cloth Boards, 1s. 3d. Pp. 51.)

As sensible as it is short. Calculated to stimulate thought and not merely to lead to the mechanical application of rules.

**Readings from the Great Historians** : Vol. I : British History from Earliest Times to 1603 : by C. B. Mackie and A. W. Oliver. (George G. Harrap and Co. Pp. 288. 3s.)

A very useful supplement to the usual class text-book.

**Scenes from British History** : by W. W. Henderson. (G. Bell and Sons. Pp. 100. 1s. 9d.)

**Epimondas ; Brother Rabbit ; Gingerbread Man** : by Sara Cone Bryant. (George G. Harrap and Co. 8d. each.)

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# AN ELEMENTARY SCHOOL SYLLABUS IN MATHEMATICS.

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(Professor of Education in the University of London.)

Reprinted from "The Forum of Education," Nov., 1924, and Feb., 1925).

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JUNE, 1927

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time of returning the corrected proofs.



# The Forum of Education.

VOL. V. No. 2.

June, 1927.

## Training Colleges and Universities.\*

BY H. WARD.

I SHALL take leave to assume before this audience that it is very desirable to establish a real connection between universities and training colleges. The Report of the Departmental Committee on the Training of Teachers issued in 1925 says: "Our witnesses . . . have, almost without exception, been in favour of a closer connection between training colleges and the universities;" and the Report shows that the Committee followed the weight of the evidence they heard. It is almost a commonplace among those who are acquainted with the work that the training colleges do and should do that the colleges should look more and more towards a relationship with universities.

But, although so much may be taken for granted, it is worth while examining the grounds upon which the assumption and the belief can properly rest. A vague impression to the effect that links ought to be forged between institutions which are now separate will do little to reveal the nature and the strength of the links or the points to which they may be attached. "The witnesses before the Departmental Committee," says the Report, "have desired that somehow" the closer relationship "should be brought about, but they have not always been successful in suggesting practicable means to it." Perhaps an attempt to analyse the reasons, by which a claim for closer relationship between universities and training colleges may be justified, may clear up some obscurities, and if only by revealing difficulties, may indicate the directions in which a living relationship can be set up and maintained. Also, though we may agree that benefits may be obtained from an association with universities, it will be well to enquire more precisely what those benefits are.

So far, as I have hinted in the Report of the Departmental Committee, we have very little assistance as to the details of possible connections between universities and training colleges. I propose to examine some of the reasons why training colleges should be in closer touch with the universities. The training colleges are said to be "isolated." We are familiar with the various forms under which this reproach is levelled at us. At the worst the colleges are described as monastic or conventual establishments in which future teachers are immured for two years, kept under strict discipline, which denies them the freedom their former school-fellows enjoy elsewhere, passed through a narrow and illiberal

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\*An Address given to the Training College Association at the Education Conference in London on January 7th, 1927.

curriculum, and generally deprived of the vitalizing atmosphere of the world of action and thought. Even where they are conducted on liberal methods and where the charge of conventualism is least deserved, many of the colleges are geographically remote from centres of culture. We need not pay too much attention to critics who read into the present-day conditions the disabilities and the peculiarities of a past now growing happily very distant. We can point out in reference to the charge of isolation and conventualism that the awful spectacle of bright young people being trained for one profession together can be fairly paralleled in medical schools, in nursing establishments, in schools for the clergy, in lawyers' quarters, and in art schools, where persons are grouped to pursue some common and worthy end. Those who know are fully aware that even in the most "isolated" colleges there are many varieties of students, that they are not all cut to one pattern, that shoulders are rubbed, that a real community life is possible, and is achieved, in which each member has something different to contribute.

Yet, exaggerations apart, it is true that the training colleges as a whole are, in a sense, isolated. The English nation has been slowly building up an organized system of education in the last fifty years, and especially in the last twenty-five years. Amid the chaos which is still alleged to exist, there begins to emerge a skeleton framework: primary schools, higher primary, or "modern," as they are to be called, and secondary schools and universities or institutions of university standing. It is possible to draw neat diagrams to show the various stages in education which are open to boys and girls. Into such a scheme, yearly growing more symmetrical, the training colleges do not easily fit. They stand firmly enough now upon the top of the secondary schools, but they are neither institutions of university rank nor do they lead up to universities directly. They take in students of university age, they provide a type of education which is expected to be post-secondary; and yet for the most part they send the students out with an equipment which is not publicly recognized as of university quality. In France and until recently in Germany, the training colleges for elementary school teachers have been substantially professional institutions at the secondary level, or, perhaps, rather below it. In England and Wales they have been neither obviously secondary nor obviously "higher." By reason of their historical antecedents they are anomalies. If that were all, we in England and Wales need not greatly distress ourselves. English life gets on quite well with many anomalies. We might even fairly distrust schemes which are too beautifully logical, especially if such schemes involved a drastic trimming of existing institutions which have a creditable tradition in order to satisfy the claims of the over-tidy systematizer. But this is not all. There is more in it than this. The isolation from the main framework of organized education is not merely observed and criticized by outside commentators, it is increasingly felt by those who are inside the training colleges, principals and staffs, students, and also by many governing bodies. The sense of remoteness from other forms of education is becoming more acutely distressing. It is true that those who signed the Dissident Memorandum in the Report of the Departmental Committee proffer an apparently simple solution of this difficulty. The anomalous situation of the training colleges, they say in effect, is due to the attempt to continue



the secondary education of the students; to do so at a university level is impossible; to do so at some lower intermediate level is unnecessary; let the training colleges relinquish the effort and become purely professional institutions. Then their function and purpose will become clear. As professional institutions they can imitate the universities, which postpone professional training to a post-graduate year. But the professional year in a training college as thus defined seems to me to resemble rather more closely the training of an academy which prepares young people for the more modest positions in a commercial house. The general opinion of teachers of all grades has rejected this simple solution. It need not be further discussed here. The solution of the tangle is not to be sought in truncation, but in development; and the line of development leads to connection with the university.

Those who deplore the isolation of the training college usually spend their sympathy upon the students. As I have already hinted, I am not too profoundly impressed by the allegation that the students are at a very serious disadvantage in this respect in comparison with their contemporaries intended for other callings. It is said that elementary school teachers tend to be all their lives persons apart, out of touch with life as it is understood by other working folk; and confinement in training colleges is put down as a prime cause. I do not believe it. The conditions of their calling, conditions which affect all teachers, not excepting university teachers very often, are responsible for the remoteness of teachers, so far as they are remote, to a very much greater extent than their two short years of training in a training college. I do not wish to elaborate this argument further than to claim again that in an ordinary residential training college in these days, students do gain many of the advantages of community life supposed to be peculiar to universities. Where they are less fortunate, it seems to me, is in what may be called their intellectual isolation. And this intellectual isolation, viewed more closely, is in effect the isolation of their tutors. To my eyes it is the staffs of the training colleges that suffer from isolation primarily, though, of course, through them, the students also. We need not exaggerate here, as if training college staffs were the only people to be remote from the general stream of life and thought. Teachers, like other people, when they are obliged to pursue their avocations away from centres of thought and culture, tend to be isolated. But training college teachers are relatively few; they rarely have neighbours, even in London; by tradition the colleges have grown self-contained, and their teachers absorbed in the tasks immediately before them. They have had no acknowledged position in the educational world or only recently have begun to acquire one. But their function is one where a living contact with the best thought is vitally necessary. They are influencing and training the future teachers of the country, elementary and secondary alike; and this at a time when the office and business of "training" is at last officially recognized as one single function, and when at last the idea that all teachers should be professionally prepared is ceasing to be a fantastic vision. Fifty years ago the training college was merely an appanage to the elementary school system; now it is becoming an indispensable constituent in national education. Moreover, it is in a state of flux, developing and not static, and few can foresee what it will be in another fifty years. No further

words are needed to point to the urgency of the demand that whatever barriers of isolation there remain should be overthrown. Social barriers do not vanish at one stroke ; intellectual barriers may be removed, if not at one stroke, at least by pressure skilfully and persistently applied.

To bring the problem a little nearer the region of practical suggestion one more consideration must be advanced. Many of the witnesses before the Departmental Committee, especially those who represented associations of teachers, urged that all teachers should be educated and trained at universities ; that all schools, secondary and elementary alike, should be staffed by graduates. Whatever the future may hold in store, it was clear to the Departmental Committee that the nation was not now ready for a reform so far-reaching. In the long run it is the nation which will settle what kind of persons it wishes to have in charge of the education of its children. At present public opinion is not convinced that all teachers should be graduates ; and, further, on the one hand, there are not enough persons prepared to graduate and train at their own expense ; and, on the other, the nation is not able to afford to pay for the professional preparation of its teaching staff on so extensive a scale. We have, therefore, to contemplate for a very long time a situation in which the majority of the teachers of the 5,000,000 to 6,000,000 elementary school children will be persons below the graduate standard. This fact, which to some may be unpalatable, has to be recognized. It is this fact which makes the necessity for securing for the training colleges a definite position in touch with the universities at once more pressing and more difficult. It furnishes the data of the problem and focusses it to a point. For though the nation cannot face the simple solution, simple logically, if not simple in execution, of university education for all teachers, it is not averse, as I read public opinion, from giving its future teachers as good a training as may be possible under the acknowledged limitations.

This, then, is the problem. How can we assure to the thousands of young people who annually enter training colleges some at least of the advantages which come from the highest form of education in the country, that of the universities ? How establish the " cultural touch " between training college and university ?

I have spoken so far as if there existed no connections at all between the two institutions. But, of course, as my audience is well aware, intending teachers have been pursuing degree courses in universities for many years ; and for quite a long time some students in the training colleges under management independent of the universities have also taken degrees at the nearest university. All this is true and encouraging, but it does not affect the accuracy of the general statement that students in training as a whole are outside direct university influence. We can leave aside the fortunate few in the ordinary training college who are graduating at a university with one or two remarks. This kind of association, such as is seen in London, Birmingham, and elsewhere, on the intellectual side is complete, or all but complete. In the university they are on precisely the same terms as other undergraduates. The share of the training college in directing their study is limited at best to tutorial supervision, an advantage which some modern universities do not offer. On the social side, however, there are misgivings. To which do these students owe their deepest allegiance ? If to the university, then the training college



becomes a mere hall of residence, but one which is not acknowledged as part of the university organization. If to the college, the students tend to become external visitors to university lectures rather than real members of a university, participating in all its activities. This difficulty will be solved, differently, no doubt, in different places. In the small and compact university centre of Durham, the training colleges virtually, if not technically, are constituent colleges of the university and supply both numbers and strength to university life. In other places there has been no substantial failure on the part of the students in loyalty to their own college; and university students have taken their natural position as leaders in their own college. Where distances are relatively great, as in London, the question can hardly be regarded at present as settled. The point has to be mentioned because it will arise in some form or another in any scheme of relating training college work to that of a university. The colleges will not wish to be so completely absorbed in universities as to be entirely superseded as independent entities. As I understand them, they advance no claim to equality with the university; but both their long history and the special purposes for which they exist make them unwilling to acquiesce in unconditional absorption.

The second observation to be made before leaving the prospective graduates is one of more detail. When a training college student has obtained his university degree, he naturally wishes to follow the example of his contemporaries and to obtain a university diploma in education. But the college has a very special interest in the professional training of its students and very properly wishes at least to have a large share in the work of the professional year. Here, it seems to me, an accommodation is easy; and it is in operation in Durham. The university will sacrifice none of its essential rights if it will admit persons who are its own graduates to the examination for the diploma in education on easy terms. It will very properly exact attendance at some of the university courses; but, by co-operation with the training college, the university can relieve itself of some of the tuition and of part of the arduous task of conducting school practice. This conception of the training college as the trusted auxiliary of the training department neither offends the training college nor derogates from the dignity of the university.

I do not propose to enter on the thorny question whether the preparation for external degrees amounts to a living connection with a university. This would lead us too far from the real subject of the present address.

To revert to the main problem, if students from training colleges near a university can attend lectures there regularly for three or four years, why may not other students, not proposing to graduate, also have the advantage of some university lectures? At Bristol and Birmingham, where two-year courses are followed by ordinary students, some of them are admitted to university lectures and prove capable of holding their own with the regular members of the university; they do not, of course, graduate. I understand that there is no official obstacle in university regulations as a rule to this practice, and perhaps, as relations grow closer, it may be extended. If a training college is very near, why should not some of the non-graduate students attend some lectures? But this, in the nature of things, cannot be widespread. Distance is a fatal obstacle,

for while students can leave the training college to spend a whole daily session in university classrooms, they cannot do so for occasional lectures without wasting much time. Moreover, the practice of non-graduate students attending university lectures means that the training college must adopt a syllabus into which the university lectures fit ; and courses which have a degree in view are not always appropriate for students who have a shorter and more circumscribed period of training. A cross section of an intermediate course, for example, cannot always be fitted into a syllabus designed for other purposes. The awkwardness here suggested must not, of course, be pressed too far. I mention it as a caution. Some university colleges have managed to combine in the same classes students pursuing a degree course and students reading for the Board's final examinations. But it is not right always to subordinate the requirements of the one set to those of the other.

The advantages of attendance at university lectures, where it can be easily secured, are manifest. The students should perceive and perhaps to some extent acquire the university attitude towards the subjects of the lectures. They should have the stimulating experience of coming into contact with men and women of eminent scholarship ; and a dash of intellectual hero-worship will do them no harm. For even a short time they must mix with university students, many of whom are not intending to be teachers. They should, in however slight a way, catch something of exhilaration in being for a time in a university atmosphere. Able and expert as their own college tutors may be, these cannot in the circumstances give quite the thrill and the satisfaction that a university should evoke. Some university lectures are doubtless dull and pedestrian, and some lecturers, however learned, fail to impress their hearers with the charms of scholarship. But we can fairly assume that contact with university teaching is stimulating both in itself and in its associations.

Apart from degree courses, the most useful form of connection between universities and training colleges which now exists is by the diploma courses in English, geography, and history in London, open to training college students and taken in a third year. In many respects these are more valuable than degree courses. They are limited to one subject for each student ; they are shorter (lasting one year only), and they are not hedged round with conditions of residence ; while at the same time they require the student to be capable of undertaking work that is really advanced ; the subject is pursued to a further stage than it could be if it were one of the constituents of an ordinary arts course. Is it too much to suggest that other universities should follow the example of London ? That they should consider schemes whereby students within reach could take a year's diploma course, where a long training for a degree is out of the question for them ? With the new freedom that the training colleges now enjoy, it is quite conceivable that many students may be able to take a diploma course of the kind I have mentioned at a university as their academic work in a two-years' course. The main point of a two-years' course, as opposed to the one year's professional training, is that the students should continue their academic education. With properly prepared students, why should not this take the shape of the advanced study of one subject at a university level, instead of a



number of subjects below that level? It would cover the greater part of one year, and the professional training for the rest of the year; while the second whole year could include such an elementary review of school subjects as may be needed for the professional purpose of teaching them. Until students come in better prepared, many of them will, no doubt, have to continue to confirm their general education. But the best form of stimulus to an increasing number, one may hope, is to concentrate on one subject and carry it to a really scholarly standard. This is a real and practical connection with the university. It may be said it is a kind of specialization, but, as I view it, it is specialization in the first instance for the general benefit of the student's education, and only in quite a secondary sense, specialization for the ends of teaching. It is an opportunity for a modest but genuine connection with the university. Incidentally, it greatly simplifies the question of examination. On the academic side the university examination would be already there, and there would remain only the test in professional subjects, which, I think, can then be reduced to manageable proportions.

Before passing on to colleges which are debarred by distance from participating in any of the benefits I have sketched, I must touch on one delicate and, possibly, dangerous subject. This is the recognition by the university of residence in a training college. If this privilege were granted, it would, no doubt, be subject to stringent requirements of intellectual capacity as shown by the work covered; if these were fulfilled, students might conceivably be exempted from part of the usual requirements of residence for graduation. Some universities, no doubt, will be unwilling to make any concession of this kind; they require that the whole of post-matriculation study shall be taken within their walls. Others have already recognized the year's work for the intermediate examination done inside a training college. I do not consider the situation hopeless. It is quite conceivable that the links of association between a university and even a distant training college may become so intimate that the university may feel that the college is in effect a specially situated part of its whole organization, and be prepared to acknowledge that fact in a tangible way. The training colleges do not ask for favours: they cannot claim to be constituent colleges of a university unless their students are all graduating and not always even then. But they may indulge a hope that they may come under the kindly protection of a university and participate up to the limit of their powers in some of its privileges.

Attractive as is the prospect of association such as I have sketched, there is no great chance of its being realized either immediately or on a large scale. The number of students who can annually graduate must for some time be small, the number of those who can take a third year's diploma course also small, and the majority of students are not yet ready to attack a diploma course within the two years of their training. The geographical difficulties are also, of course, serious. It is one thing to send a few students for a considerable distance to university lectures, and the expense can just be managed; it is quite another thing to contemplate the regular travelling of two or three scores. But if for various reasons the students cannot go to the university, can the university go to the college? In making this suggestion I have in mind diploma courses and courses of an advanced kind; it matters little whether a formal

certificate is given by the university or not. Degree courses for this purpose must be left out of account. The university organization, and, indeed, the whole university principle, must demand that work for degrees be done wholly or almost wholly, within the university itself. Even if the whole of the teaching in preparation for internal degrees were conceivably done by university teachers in a detached college away from the university centre, this would not raise the college to the status of a constituent college of the university. So I interpret the feeling of the universities at the present time. Whether a new type of federated university, such as may possibly arise in the South West and the East Midlands, would admit of the absorption of a training college on terms analogous to those on which an agricultural or higher technical college may be taken in, cannot now be foreseen. Anyhow, the prospect is too distant to be discussed in detail.

But short of this consummation, I suggest that universities may quite properly take an interest in training colleges, patronize them in a real and inoffensive way, and protect them ; and this interest and patronage may take the form of sending professors and lecturers to the training colleges to conduct courses of some length and dignity,—courses which aim at a university diploma, or, at any rate, courses of an advanced kind. It is not wholly impossible that a university teacher might be “ seconded ” for as long a period as a whole session for whole-time work in a training college. This is a kind of extra-mural activity in which universities may be urged to engage. Like university extension and the classes for the W.E.A., it is a legitimate spreading of university influence, ideals, and methods in regions which university teaching in university classrooms cannot ordinarily reach. By contact with men and women accustomed to university work the students will enjoy some at least of the benefits of university teaching.

Conversely, I make bold to suggest that the universities might invite some training college lecturers to undertake courses in the university itself ; lecturers from colleges which are near or which are at a distance. In the last twenty years the staffs of training colleges have been strengthened by the appointment of men and women of high academic qualifications, some of them point by point as well qualified as lecturers in universities. An exchange of teachers, between university and training college, is no idle dream. Anything like a pooling of staffs is out of the question, save where the training college, as at Birmingham and Bristol, is part of the university ; and though in some subjects the same lecturers serve on both staffs, the university and the college staffs, I am not sure that “ pooling ” is the right word there. To aim at an exchange of teachers is better, in my view, than to ask for the bare “ recognition.” “ Recognized as a university teacher ” sounds very well ; but I am told that the phrase means very little in practice. It is the practical recognition of training college lecturers, by utilizing them in the university teaching, that is worth seeking, whether the titular recognition is conferred or not.

I am well aware, as we all are, of the difficulties in carrying out the suggestions just outlined, and I commend the suggestions, which, of course, are not original, as bases for discussion and as ends to be achieved ultimately. There appear to be no insurmountable obstacles, in the shape of principles which cannot be waived. There is no derogation of university



prestige and no complete overruling of training college independence. Other obstacles, financial and geographical, there are in plenty.

There remains the familiar question of associating training colleges and universities through a university participation in the examinations of training colleges. On this it would be improper for me to traverse the course of the discussions that have been and are now proceeding. But a few general observations may be permitted. It has been the fashion in some quarters to decry this form of connection as mechanical, merely administrative, barren, wholly devoid of cultural influence, and as likely as not to stand in the way of closer association. This view, I venture to think, is a mistaken one. To go no further, however formal the relations may be at the outset, they do at least make a contact and provide an initial framework upon which closer and more intimate relations may be built. It is to be presumed that representatives of the universities and of the training colleges will meet and become acquainted. But, surely, reasonable people will go further than formalities. Without anticipating how the examinations now under discussion will be conducted in detail, it is fair to assume that the normal procedure of examinations which are not purely external will be followed, that is, by a combination of internal and external examiners, and that the external examiners will be men and women of university rank. The training colleges will expect to have a voice in selecting their own syllabuses, for it is this desire to escape from syllabuses prescribed for them by the Board of Education that has led so many colleges to solicit the freedom which the Board has not been unwilling to grant. But they will, or they should, be ready to receive advice from their external examiners, when that advice is founded upon knowledge of the circumstances of the college. So, whether Boards of Studies are regularly constituted from the beginning or not, it seems likely that they will arise, though, perhaps, not always in a formal shape. If the universities co-operate in the examinations, they are not likely, one may with confidence predict, to issue syllabuses and lay down conditions *à priori*, and so to dominate the colleges; to do so would be to substitute an ill-informed tyranny for the mild despotism of the Board, which is tempered by knowledge of the colleges and by frequent and regular consultations with their representatives.

If my optimistic forecast is correct, if the distinguished professors and lecturers of the universities will interest themselves in the first instance through a co-operative examination, this is surely the beginning of a real association of universities and training colleges; and it ought to bring with it much of the cultural influence that the colleges desire. We must leave developments to the future. The first essential is the knowledge that comes from mutual acquaintance, and I think for my part that this knowledge can easily be acquired, through the link of examinations. I suspect that one of the first things the university participants will discover is the excellent quality of the best of the two-year students and of many of the college staffs. The isolation of the college staffs will surely be broken down in some degree. They will meet experts in their own subjects who are not engaged on precisely the same task; and the experts will learn, possibly to their advantage, that there are other students deserving attention who are not undergraduates.

This sober review, which is as optimistic as I feel able to make it, may be unacceptable to some of my hearers. It does not hold out the prospect of the immediate admission of the non-graduating students into the university fold. But it does contemplate the possibility of a real and a vital connection through the means I have suggested. Those who have felt most sincerely the aloofness of the training colleges have pleaded for a "cultural touch" between them and the universities. If the universities are willing to carry out the proposals I have ventured to outline, it seems to me that the cultural association is, in fact, established. Others of my hearers appear to dread the influence of the universities rather than to welcome it. I think their apprehensions are unfounded. The universities will be within their rights in laying down clearly and unmistakably the conditions under which they will admit training college students, like other students, to their degree courses. But apart from this just assertion of their privileges, I do not suspect them of desiring to dominate the training colleges, to dictate what shall be taught and how or even what shall be the standard of achievement they will accept. Let us here distinguish. Dictation and domination of syllabuses is one thing: a claim for representation is a much less important matter. If a university is sincerely anxious to be of use to a training college, it may ask for some representation on whatever bodies decide upon the nature of the work the universities are to influence. This is one of the ordinary principles of business: I do not see in it any desire to assume complete control. Any university spokesman who would not lift a finger to help unless the college surrendered its whole life and administration to his university, would, in my view, not only render any accommodation impossible, but entirely misrepresent the general sense of the universities as a whole. The training colleges must not be impatient if the approaches of universities are slow, and if what they can offer at once is partial and apparently inadequate. The universities have not a superfluity of men and women on their staffs aching for something to do. They cannot, without much deliberation and the careful consideration of ways and means, offer even the diploma courses I have suggested, or release their lecturers to teach in the colleges; and even the whole-hearted assistance in the examinations which many would sincerely like to provide may be hindered at first through pressure of the ordinary university work to which they are committed.

The whole question is not exhausted in this review. Finance has been deliberately omitted, and the geographical difficulties have been mentioned without any far-reaching proposals for removing them. But I hope that my review may have been of service in presenting the opinions and hopes of an observer who is outside both universities and training colleges, yet who is linked in some degree by long association with both.



# An Enquiry as to Reasons for the Choice of Occupations among Secondary School Pupils.

BY C. W. VALENTINE AND F. M. RITCHIE.

A GREAT deal of attention has been paid in recent years to the study of the best modes of selecting trades and professions for children leaving schools, and to the application of tests of general intelligence or tests of special abilities to determine the vocations for which they are most suited.\* Such tests have been applied more to pupils leaving elementary schools, or, at least, in the case of tests of special abilities, to those going into some form of manual work (though the tests for typists are a notable exception to this). This is natural, because as the type of occupation "rises in the social scale" there is generally more and more scope for general intelligence to compensate for weakness in any specialized abilities that are also involved. So much so that at the highest range high academic qualifications in subjects quite unconnected with the particular work that the person is to undertake are often regarded, rightly or wrongly, as satisfactory guarantees of his ability to perform that work; as, for instance, when success in classics or mathematics in the Civil Service examinations opens the way to responsible administrative posts.

Relatively little, however, has been published as to the motives which guide or influence the young people leaving the secondary schools in the choice of their profession, though a good deal of information must necessarily be accumulating if only in the minds of those advisers who are beginning to work more particularly in connection with the School Care Committees, in guiding the choice of occupation even of pupils leaving the secondary schools. Notable work has been done in this direction by a number of municipal authorities. The Birmingham Education Committee, for example, through its Juvenile Employment Sub-Committee, in the year 1925, after interviewing the pupils, placed in employment the following school pupils of the age of 16-18: Boys, 1,790; Girls, 1,175.

In addition, they did valuable service by arranging for two series of informative broadcast talks to be given by officials in the Education Department, giving useful information and guidance as to the natures of various trades and occupations, the special qualities needed, and so forth. The list is given here:

## FIRST SERIES.

- (1) Introductions, with reference to trades not otherwise dealt with (Printing, Leather, Building, and Distributive Trades).
- (2) After-Care and Choice of Careers for Children.
- (3) Clerical Occupations.
- (4) Engineering Work.
- (5) Non-Ferrous Metal Trades.
- (6) Hollow-ware Trade and Gun-making.
- (7) Public Services.

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\*For example, the very extensive and remarkably successful investigation as to the possibility and reliability of such guidance, carried out by the National Institute of Industrial Psychology. See "Reports on Vocational Guidance Experiment," 1925 and 1926, and "A Study in Vocational Guidance" (Report of the Industrial Fatigue Board, 1926).

## SECOND SERIES.

- (1) Introduction by the Rt. Hon. Sir Arthur Steel-Maitland, M.P. (Minister of Labour).
- (2) General Introduction. The Rubber Trade for Boys and Girls.
- (3) Sewing Trade for Girls.
- (4) Trades for Boys and Girls with Artistic Tendencies.
- (5) The Residential Services.
- (6) Chemical Trades for Boys and Girls.
- (7) Leather Trades for Boys and Girls
- (8) Shops and Wholesale Warehouses.
- (9) The Teaching Profession.

The giving of advice and information as to future occupations has been organized much more widely in the United States of America.\* In the course of the present report it will, I think, be made clear that there is a need for the further extension of such information among pupils leaving our own secondary schools. It is, no doubt, the case that a well-informed and intelligent parent, who knows the individual characteristics of his children, should usually be the best person to advise his child as to the choice of a profession, and parents of the right sort may be able to do this better than the professional advisers, even if the latter have the aid of tests, because of the parents' more thorough knowledge of the interests and of the *character* of the child.

In many cases, undoubtedly, in which the child may have abilities which the parent is incapable of appreciating, or when the child is so much under the dominance of the parent that he is afraid of stating his own ideas, or when the special abilities required for the profession are of such a nature that their presence cannot be proved, except by means of tests ; in these cases the parent is likely to fail. The parent of the child, however, can give a better account of *interests*, though to be relevant these must be interests in the actual kind of work involved in the occupation chosen ; too frequently they are merely interests in the mere externals of such occupations, or in the product of manufacture when completed.

Even from the point of view of character and temperament it must be remembered that young people do not always react in the same way to the strange environment of the works or office, with recognized superiors whose orders they must obey and whom they may rarely see, as they do to the familiar environment of the home, among persons with whom they have lived since babyhood in intimate daily association and possibly with father or mother "complexes" developed. Indeed, as it is generally recognized that a man may be a tyrant in his business affairs and a lamb in his own house, like Archdeacon Grantly, or may keep an

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\*For example, Professor Edgerton states that 143 American cities had 335 vocational counsellors, 279 placement officers, and 402 classes to study occupations. See "Vocational Guidance and Counselling," 1926, page 30. For a discussion as to the persons by whom, and the way in which vocational guidance should be carried out, see a symposium on "The Principles of Vocational Guidance," by Otto Lipmann, Cyril Burt and L. L. Thurston ; (*British Journal of Psychology*, Vol. 14). For a survey of recent developments of vocational guidance in Germany, France, Switzerland, Belgium, Japan, etc., see article on "Recent Developments in Vocational Guidance," by G. H. Miles (*Journal of the National Institute of Industrial Psychology*, Vol. II).



even temper at the office only to "let off steam" at home, so the youth's temper, patience, determination, and (apparent) disposition may also vary according to his environment : a fact which has, no doubt, been the cause of surprise to many a parent.

On the other hand, the attempts by the employer or his representative to judge of such matters as disposition and character are often hopelessly inaccurate, as experiments on the reliability of the interview have shown.\* Nevertheless, however difficult may be the judgment of disposition and its fitness for particular kinds of work, there are some points at least in which we can set up safeguards against errors.

In most cases it is at least of extreme importance that the parent and the pupil should be as adequately informed as possible as to the nature of the occupation which the latter is choosing, and in the course of this enquiry the need for further extension of information will be emphasized.

It must be borne in mind that an increasing number of pupils in the secondary schools come from very poor homes ; and parents who have been occupied in low-paid and unskilled occupations, but whose child reveals mental capacity above the average, are often naturally ambitious that their child should follow a calling superior to their own, but their lack of knowledge and the narrowness of their own experience may quite unfit them to act as complete guides in the selection of such a calling.

### THE METHOD OF ENQUIRY.

The enquiry here described was carried out in two secondary schools in the Midlands some years ago. One school was a mixed school, the other for boys only.

By the courtesy of the head masters the following paper was handed to the master of each class in the school at the same time, and time was allowed for the pupils to write their papers.

It should be noticed particularly that the reports were anonymous.

#### INSTRUCTIONS FOR ENQUIRY AS TO CHOICE OF OCCUPATION.

##### PART I.

Will the teacher of the form please write out the following instructions on the board and give as few further explanatory remarks as possible ?

Write on the paper given the profession, trade, or occupation which you have decided to take up, giving roughly your age when you made your decision.

State, then, as carefully as possible the reasons why you have made this particular choice, showing what reasons or what persons have influenced you most.

If nothing has yet been decided, state what profession you would like to follow and give the reasons why.

Put a *nom de plume* instead of your real name at the head of your paper. Also put your age and form at the top of the paper. Write exactly what you think, as nobody connected with the school will read your paper.

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\*See C. H. Griffiths : " Fundamentals of Vocational Psychology " (New York, 1924), and Hollingworth : " Judging Human Character " (London, 1922).

## PART II.

*After* the allotted time of twenty minutes, or half an hour according to the needs of the class, will the teacher please write down on the board the following, and ask the pupils to write the same down on their papers, each giving, first, the reason or influence which had been strongest in his own case ; second, that which is the second most powerful influence, and so on. If any reason has not influenced a pupil at all, it should be omitted from that pupil's list.

It is important that these should not be written down on the board until the pupils have completed their own spontaneous account.

## LIST OF REASONS TO BE WRITTEN ON THE BOARD AFTER SPONTANEOUS ACCOUNTS HAVE BEEN GIVEN BY PUPILS.

When the list is written on the board, ask the class if they would like any reason or influence added.

- (1) Desire of father that this occupation should be taken up.
- (2) Desire of mother that this occupation should be taken up.
- (3) Suggestion or influence of teacher.
- (4) Because it is well paid.
- (5) Because it is a secure occupation in which I am unlikely to be thrown out of work.
- (6) Because I feel specially fitted to do this kind of work. (State in what particular way you feel fitted if you have not done so already).
- (7) Because it is easy to get a job of this kind.
- (8) Because I have already been offered one.
- (9) Because the hours are easy.
- (10) Because I think I should like this particular work. (State what especially you would like, if you have not done so already).
- (11) Because it is my father's occupation.
- (12) Because it is my brother's occupation.
- (13) Because it is an open-air occupation.
- (14) Because it offers great prospect of advancement.
- (15) Because it requires skill rather than labour.

Now in an enquiry of this kind there are always certain dangers to be guarded against.

The first danger is that of suggestion from the teacher in giving the instructions, but that was guarded against in the first part of the enquiry by the teacher being definitely restricted as to instructions. In the second part reasons were suggested for a deliberate purpose and this is not lost sight of. The second part serves only as a supplement to Part I.

The second danger is that pupils will not write their real reasons but will write what they think is good and sound, what the teacher or parent would like them to write.

This may lead to the answers being superior to what they should be ; but in this particular enquiry the tendency to quote the parents is actually an advantage to us, for we wish to learn *all* the motives, the pupil's own



or the parents', which have led to the choice of occupation. Further, if in spite of what pupils have heard their parents or others give as reasons for choosing a certain occupation, they give bad reasons or show misconception as to the qualities needed for that occupation, it makes the answers all the more significant.

Granted, however, a wide acquaintance with boy or girl nature, and some sense of humour, it is really not so difficult as some may imagine to detect or suspect the echo of the words of an adult relation ; indeed, as we shall see, the parents' influences are very frequently referred to most candidly. Thus, one boy of sixteen, who is to become a chemist, writes : " Father thinks I am fitted for the subject and *he* likes it ; " and another of the same age, who longs for work connected with wireless, but who from parental pressure and expediency is going into an office, where his uncle, being manager, can offer him a post, writes : " Well, such is life. The majority of men are not what they preferred to be, but what other people preferred them to be."

Nor are modern pupils as shy as those of an earlier generation in expressing themselves frankly about school or home. Thus one boy, who has decided to become a teacher, confesses that he likes the idea because there is much leisure, long holidays, and work indoors. " It is a very easy life," this deluded youth judges. " In secondary schools the master uses the same books and teaches the same things from year to year. He does not soil his hands, so to speak. He needs only to remember his schooling." " In the first place it is indoors and in the dry." " The teacher gives his class something to do and all that he does is to see that it works properly. Of course, I may be wrong, and perhaps teachers really do a lot of work, but as far as I can see this profession is the only one that would suit me."

In this paper we shall consider only the papers from the boys' school, reserving those from the mixed school for a further paper.

## PART I.

### REASONS GIVEN SPONTANEOUSLY.

A great variety of reasons are given spontaneously by the boys, some revealing that sound motives were influencing the choice of profession, so far as the experience of the pupil and his parents could determine. The main interest of the papers seems to us to lie in individual statements, but as a rough indication of the extent to which fairly sound reasons (in the absence of special tests and expert examination) are determining the choice, we have assigned a mark to each boy's statement : Excellent, good, moderate, poor, very poor, care being taken to mark only for the relevance and soundness of the reasons and not for correctness or style of composition.

We give below the marks for the fifth form (average age nearly 15) and for the sixth form (average age 16 years 2 months). The lower forms, having an average age of less than 15, are of less concern to us, as fewer boys actually leave from these forms and the choice of occupation is less mature and permanent and the reasons possibly less reliable, though it should be noted that some of the older boys, even in these lower forms, would be choosing at this stage their future vocation.

TABLE I.  
QUALITY OF SPONTANEOUS REASONS.

|                      | <i>Form VIa and VIb.</i> | <i>Form Va and Vb</i>                |
|----------------------|--------------------------|--------------------------------------|
| Number of Boys ..... | 29                       | 58                                   |
| Average Age .....    | 16 $\frac{1}{4}$ years.  | { Va, 14 yrs. 9 mths.<br>Vb, 15 yrs. |
| Excellent or } ..... | 7                        | 10                                   |
| Good } .....         | 11                       | 8                                    |
| Moderate .....       | 7                        | 18                                   |
| Poor .....           | 1                        | 8                                    |
| Very Poor .....      | 3                        | 14                                   |

The moderate and poor reasons cannot be regarded as satisfactory ; examples will be given below. This means that even in the sixth form about one-third of the 29 boys seem to be choosing their professions on inadequate grounds, which is serious, even allowing something for incomplete statement, not very likely in the case of these boys of picked intelligence ; while in the fifth form about two-thirds of the reasons seem unsatisfactory. Even if we regard the “ moderates ” as indicating sound reasons, and also disregard boys under 15 years of age, we find 16 boys in these four forms, between the ages of 15 and 17, giving very inadequate reasons for their choice.

That the quality of the judgments is not merely dependent on the intelligence or literary capacity of the boys themselves, and that it reveals largely the reasons of the parents, is strongly suggested by the fact that the fourth forms (average age 14 $\frac{1}{4}$  years) give as high or even higher percentage of good and excellent judgments as do the fifth forms.

That we have not been unduly severe in our standard of judgment is, we think, shown by the following examples, all taken from boys in the sixth or fifth forms :

No. 215. Age 15 years 8 months. Mark : *Excellent.*

“ The profession I would like to follow is that of a draughtsman, and I have been interested in it for over three years. I am not very good at drawing sketches, but I can make a fair copy of any machine part that is given to me in a short time. I am very interested in any machine or engine-parts, and am able to study them thoroughly if I wish. I was always interested in railway engines, or any motor on the road, as far as I can remember. I am in the habit of asking to have a machine explained to me if I do not understand its method of working, and I have gained a fair knowledge of every-day appliances in this way. The master makes it his duty to explain all machines minutely and is always ready to repeat these details if necessary.”

No. 204. Age 15 years 11 months. Mark : *Moderate.*

Wishes to become a bank clerk because he is “ interested in mathematics.” Also “ there would be no strikes and the class of people with whom I should have to work would be quite as good if not better than any other occupation.”



No. 198. *Age 16 years 5 months. Mark : Poor.*

"Nothing decided, but would like to be engineer. For three or four years have desired to be an engineer, especially in the motor or motor-cycle line. My father has always been a keen motorist, and I have learned a little from him. By saying 'a motor engineer,' I do not mean the sort of person with grimy hands, etc., but the theoretical sort, although a little practice with the real thing would, of course, add interest and knowledge. Although so keen on engineering, I have no doubt that I shall only carry on with it as a hobby in my spare time, because going in for it now would mean the wasting of an education. What I hope to do is to get into an office, work my way up and go in for the engineering as a trade after."

Occasionally it is difficult to decide whether to mark highly a paper which shows that a boy is going into an occupation for inadequate reasons but is fully aware of the situation. As, for example :

No. 224. *Age 16 years 1 month. Mark : Good.*

"As the reader of this paper will see, I am of an age when I should by this time thoroughly have made up my mind as to what profession, occupation, or trade I shall follow. I have thought a great deal about it and find, not to my excessive joy, that I shall probably have to enter an office. Some time ago I thought of being a wireless operator like my brother, but he has since told me that he would not advise anyone to take it up, especially his own brother. That was on a ship, not at a land station or G.P.O.

"Everybody has an ambition (or I think they should have), and the thought of a stuffy little office, 'pushing pens,' etc., does not appeal to everyone; it does not to me. But, of course, everyone has to commence their career down at the bottom of the ladder. Even Horatio Bottomley was an orphanage boy, and look what a position he has attained.

"Various people have induced me to take up a position at a certain printer's, but the chief is my uncle, who is manager there, and who tells me that he has a good situation open for me. Well, such is life. The majority of men are not what they would prefer to be but what other people prefer them to be."

We think we have been not ungenerous in awarding this "moderate." The choice in the long run may prove to be unsatisfactory, but it is in a sense an intelligent or, at least, an open-eyed one. It is not based upon positive misconception.

Further examples of the various classes will be given throughout the paper. This broad classification, however, we do not wish to lay much stress upon, and we proceed now to a more detailed consideration of various types of motives.

#### (A) REASONS BASED ON MISTAKEN IDEAS IMPLYING LACK OF KNOWLEDGE.

The basing of a choice, partly at least, upon an entirely mistaken idea or an ill-proportioned judgment of the kind of work and capacity involved, may be traced in about 9 per cent. of the cases. They are not frequent in the highest forms, but elsewhere too often accompany

decisions apparently already made in the home. I quote examples from the older boys' papers. They are all cases in which a little guidance by a well-informed adviser would readily supply the defect or dispel the illusion. In some cases, perhaps, this would be done before the youth was actually engaged.

(a) One boy of sixteen years of age gives as one of his reasons for becoming a chartered accountant the fact that he is "fond of travelling." This apparent irrelevancy is explained when we learn that a friend of his, having passed his qualifying examinations, had gone to South Africa. This hasty generalization—that accountants have special opportunities for travel—is paralleled by another case:

(b) A boy of  $17\frac{1}{2}$  years who is entering the home Civil Service, partly because he wants opportunities for foreign travel; and possibly by (c) the case of the boy who wanted to be a private secretary "perhaps because of my ability for mathematics and for learning French."

Other cases where well-informed advice is apparently needed are the choices of the following occupations:

(d) Bank clerk (15 years 9 months), "because I am fond of modern languages."

(e) Commercial traveller (15 years), "because I shall be able to see more of the world," which "shows us how insignificant man is."

(f) Dispenser ( $14\frac{1}{2}$  years). "Mother suggested it because I am rather good at Latin."

(g) Customs officer ( $12\frac{1}{2}$  years). "Would see a variety of places and travel."

To which we should, perhaps, add several cases of boys about 16 years of age who seem to think that a liking for mathematics is a guarantee that they will like the work of a bank clerk.

## (B) SUPERFICIAL REASONS.

### (1) *The Ease of Getting a Job.*

Nearly one-fifth (18 per cent.) of the 276 boys spontaneously mention this as being one of the main reasons for their choice. Thirty have already been offered a job, seventeen of these even in the junior forms from the fifth to the second. The overwhelming influence of the mere offer of a job on the choice of pupils leaving an elementary school is well known; too often a blind-alley occupation is chosen because the temptation cannot be resisted, whether it be by parent or by child. It is evident that the motive is by no means absent among these secondary pupils. In the sixth and fifth forms 33 boys out of 87 mention either the ease of getting a job or the actual offer of one as a motive for selection, and though it is not often given first of the motives, one wonders how often other motives put before these may not really be "rationalizations." Cinema work, the building trade, bakery, farming, printing, and other trades are taken up partly because father, uncle, or other relation is in the profession, and "can easily get me a job." The post of electrician at a theatre is decided on because "My best friend is an electrician and can get me a good post." Another writes: "My father has discovered a patent medicine and I think it is my place to carry it on."



It would be a mistake to ignore the advantage from the point of view of gaining inside knowledge of having such a near relative or friend in the occupation under consideration. And such economic factors as the frequency or scarcity of openings are, of course, extremely important in making a decision. The danger is lest these influences should be the main or sole determinants—the peculiar capacities and tastes of the individual being ignored.

(C) TRIVIAL REASONS OR SIDE ISSUES.

These are closely allied to mistaken ideas but not quite identical. We exemplify first by several which refer to incidental advantages of a trade :

(a) Motor driver (16 years). “ My father wishes me to be able to repair his car.”

(b) Electrical engineer (14 years). “ It would be very convenient to be able to instal electric light in one’s own home and do repairs and so save expense. My cousin has installed electric light in his own house.” (It is easy to imagine how this wonderful feat would appeal to a boy.

(c) Carpenter (14 years 3 months). “ I could make chairs and tables for the house and make things at odd moments. My cousin made all his furniture.”

Four or five other boys refer to similar reasons to the foregoing.

(d) Buyer or salesman (15½ years). “ A prominent phrenologist said I was well suited as an organizer or buyer, and would be very good at figures.”

(e) Iron and steelwork (16 years). “ My father said that he would like either myself or my brother to carry on the business, and since my brother does not want to do that trade, and I do not like him to be disappointed, I said I would do my best to fulfil the agreement.”

Though far from being a “ trivial reason ” this loyalty to the father’s wish is, after all, a “ side issue ” when it comes to deciding the work for which the youth is really suited. Experience is constantly bringing one into touch with men who are in certain occupations because their fathers were in them or who take over a father’s business, with resulting dissatisfaction, if not actual misery. Possibly we ought to add to the 6 per cent. of these “ side issues ” many of the reasons of the type—“ Because it is my father’s occupation,” given later.

(D) THE “ RESPECTABILITY ” MOTIVE OR ANTAGONISM TO MANUAL WORK.

These take several forms. There is a not unnatural dislike of dirty work. The cleanness of the work is mentioned as a main motive very often and by boys choosing the following varied occupations : Carpenter, office clerk, analytical chemist, printer, teacher, baker, farmer. For example, the one (aged 16½ years), already referred to, who, after deciding on the “ motor cycle line ” (but on the “ theoretical side ” to avoid “ grimy hands ”), would go into the office first “ so that his education would not be wasted,” and would later take up engineering.

In some cases, no doubt, a father who has suffered because of the dirt and physical hardship of his occupation is anxious that his son should escape this and rise a little higher ; and we certainly do not suggest that this is an unworthy ideal. But the attitude as to manual work and the "wasting of education," if such work is undertaken, gives food for thought both to employers and to those who are concerned with the organization of education.

We give a further example of this point of view :

No. 205. *Age 15 $\frac{3}{4}$  years.*

Is to become a teacher at parents' wish ; really longs to go into the motor trade, but "If I were to go into engineering the education which, though but little, has been costly, would be wasted."

Of "respectability" as the main note we have already given an example in the case of No. 204 (age 16 years). Other examples are:—

No. 202. *Age 15 years 8 months.*

Wishes to become a bank clerk. "Fairly clean and a profession fit for a secondary school boy."

No. 73. *Age 15 years 4 months.*

Is to become a teacher. "One mixes with a different class of people than those one finds in factories."

The cases under this heading number 27, i.e., 10 per cent. of the total cases, references for cleanliness being responsible for 17 of them. Against the evidence of the trend towards the black-coated professions, it is interesting to note in some boys the signs of a pride in skilled manual work, which suggests that if the dignity of such work was more widely recognized and emphasized to boys, it would be gladly acknowledged by some who are apt to be prejudiced against it for no good reason. Thus :

No. 189. *Age 14 years 9 months.*

Engineer. "Brainy people can design things but they cannot make them. Brain work is a gift, whether cultivated or no, but perfection in handwork is only obtained after years and years of work."

No. 145. *Age 14 $\frac{1}{2}$  years.*

Engineer. "I like working with my hands and I should not like to sit on a stool and pen-push all day."

Two others regard a blend of manual and brain work as the ideal.

No. 157. *Age 15 years.*

Research in chemistry. "Neither wholly manual or head work. All brain work would be too monotonous. I think chemistry is one of the few subjects which combine the two."

No. 43. *Age 13 years 9 months.*

"Engineering is the happy medium between deadly brain work and sheer manual work."

If now we add the number of cases of these three types of motives—the trivial or irrelevant motive ; the mere ease of getting a job ; and the anti-manual respectability of "cleanliness" reason, we get a number



which is 34 per cent. of the total number of boys.\* Among the 87 senior boys in the sixth and fifth forms, 25 give one or more of such reasons spontaneously as a main motive. This, if a fair indication of the extent to which such motives are of influence in helping a decision, is rather serious. And even if we discount the proportion heavily, on the grounds that the other motive or motives usually mentioned with such as these are equal or superior in weight, these stated reasons at least give us a clue as to the lines which advice and guidance may very well follow.

(E) THE INFLUENCE OF A FAVOURITE SCHOOL SUBJECT.

This occupies a very large place in the reports, 32 per cent. of the boys giving the liking of a school subject as a main reason for their choice, in itself a very encouraging sign of the successful work which we know was being done in this school. And frequently it is, no doubt, one good reason for the choice. A great liking for and excellence in chemistry and that for work in the engineering laboratory or for drawing, offer a not unreasonable presumption that the work of a chemist, engineer, or machine drawer will be congenial and perhaps successful. Sometimes, however, there is a suggestion that the influence of a school subject as a deciding feature is too great, as in the four boys (age 15-16 years) who choose travelling because they are interested in mathematics, or are, as one writes, "good at mathematics and languages"; or in the case of the boy age 16 years, "who wanted the best possible use for the knowledge obtained at school." The choice of the Civil Service because of a liking for mathematics should, perhaps, have been classified under "mistaken ideas motives." One wonders if there is a father complex at work when a boy of 16 writes that he chose a trade connected with a certain subject because "Father thinks I am fitted for the subject and *he* likes it."

This liking for and capacity for a school subject is a much more reliable motive in the case of those occupations which regularly involve work exactly or almost exactly like that done in the school, as, for example, in carpentry, engineering, chemical analysis, and draughtsmanship. As we come to occupations of a less definite nature, to the work of offices in varying types of business or professions, to banks and the "higher" professions, success in or liking for a particular school subject becomes a less adequate guide and may in some cases be quite misleading. The routine work usually involved in the lower ranks of all kinds of occupations may, indeed, in almost all these cases, lead to disappointment to the boy who has been fascinated by the higher branches of some favourite subject.

Thus, No. 206, aged  $16\frac{3}{4}$  years, who is to be a chemist, writes of his delight in the subject:

"It contains so many wonderful and infinitely interesting problems. What subject can compare with the chemistry of radium? I like to wonder at the constitution of the atom, the infinitely marvellous problem of the atom, the molecule. It seems to me that this is one of the most, if not the most, wonderful of God's creations. . . . I delight to revel in pages of the chemical books."

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\*There is practically no overlapping of these reasons among the 34 per cent.

This boy had fitted up a laboratory of his own in a shed at home. He intends to be either an analyst or a pharmaceutical chemist. Obviously much may depend on the particular type of work he is able to secure. One can imagine him an enthusiastic worker in a research laboratory of a big works. But to what extent will his love for chemistry avail him if he has to spend most of his time handing patent medicines over a counter or making up prescriptions of sodium bicarbonate and aqua pura in the requisite proportions?

Similar disillusionment may await the would-be chemist who writes: "I like to see the strange actions going on and it is truly wonderful to me how the symbols, equations, and formulæ work out. My own laboratory keeps me busy for hours." Such enthusiasm makes one long to see that the right direction should be taken at the outset.

Occasionally, with younger boys especially, there is a curious inversion of values—an occupation proving attractive because the boy feels that it will help him to progress with his favourite study—an attitude not the soundest from a vocational point of view, though it may sometimes be a wise one from that of a wider philosophy of life. Thus:

No. 176. *Age 15 years 6 months.*

Had decided on pharmacy, because he could thus "keep up the chemistry learnt at school."

No. 25. *Age 12 $\frac{1}{4}$  years.*

Etcher in metal. "My brother has influenced me very much by the way it has taught him to draw and it has always been my ambition to draw well and this trade teaches well, according to my brother."

No. 5. *Age 12 $\frac{1}{4}$  years.*

Draughtsman. "It will make me very accurate in the work. I seem pretty accurate in geometrical drawing."

This inversion occurs most frequently with boys who have decided to become teachers, when it is perhaps more legitimate as a motive.

#### (F) THE ENTHUSIASM AND AMBITIONS OF ADOLESCENCE.

Examples of these are given chiefly as illustrating further the candour of this period, as betrayed in thoughts upon a future calling:

- (a) Some cases reveal simply the boyish desire for adventure;
- (b) Others, the devotion of adolescence; these do not so much indicate a need of guidance as reveal generous impulses which are merely waiting for an appeal to devote themselves to the service of others;
- (c) Others, again, reveal high ambition, no bad thing in itself, but which needs careful guidance lest a hopelessly wrong path be followed and bitter disappointment ensue.

The first of these types need not detain us. Examples of it are found chiefly among the boys of 13 to 15 years. There is the landsman of 13 who longs for the sea and the navy. "When you are of age you might see in staring headlines: "Able-seaman —— promoted to captain and awarded the V.C. I don't suppose this will come true, but, my, don't



I wish it would." Another would-be wireless operator on a liner welcomes the thought of adventures in storms. Another thinks that as an engine-driver he would "see the world."

As to the moral enthusiasm of adolescence we give one example :

*No. 198. Age 15 years 8 months.*

"An officer in the British Army, abroad, India preferably (not decided). The reason I have made this choice is because I feel a sort of call which calls me among men and I would like to lead a man's life. When I read the life of Robert Clive I had a strong desire to follow his footsteps, although I know I am not half as good a man as he was. I also have an uncle who has been in the Army during the Great War, and he gives me some vivid pictures of Army life. When I was in the cadet corps at another secondary school I felt that I was just as I should like to be all my life, among men who are willing to undergo heat and hardship and perhaps death for the sake of their country. When I read the book "Through Three Campaigns," by G. A. Henty, I got a further insight of the life I should like to lead."

The great services to the country done by inventors, engineers, doctors, and dentists, appeal to others. One boy hopes to keep his parents in comfort in old age ; another to make enough money in business to support various institutions.

The ambitious type is exemplified by *No. 207* (engineer). "I want to do something big, something that will both astonish and influence the public. This I will do if possible."

*No. 94* (electrician). "I mean to work my way up. I feel that some day by steady work . . . I shall make good. The resolution I have made I mean to carry out."

Another, going into a chemical works, welcomes the chance to do research "and make a name."

Such gleams of the hopes and enthusiasms of youth occur in about 15 per cent. of the papers. We mention these here not by any means in a critical way, for they are natural, indeed, admirable, at this stage. But caution is necessary lest an emotional wave should carry a youth into waters beyond his depth.

## PART II.

### ANALYSIS OF MOTIVES.

We will now deal briefly with the second part of the enquiry, the selecting by the boys of the motives which had influenced them most, from a list of 15 written on the board.

The boys were invited to ask that reasons which had influenced them should, if necessary, be added to the list of 15. We need not give all those added, as few were mentioned more than once ; but the most frequent were "non-monotonous" (eleven times), "a pension" (six times), "friends in the occupation" (eleven times), "patriotic" (six times), "means of continuing education" (six times).

As to the statistics of the most influential motives, it was decided to count the two or three motives mentioned in the spontaneous account as occupying the first two or three positions in the list of selected motives, even if they came lower down in that list.

It is true that a boy might have forgotten one or two motives that had influenced his selection and be reminded of these by the list written on the board. On the other hand, it was even more likely that suggestion might influence him when a list was provided. So our method seemed the safer one : though, as a matter of fact, the difference by following an independent calculation of Part II of the enquiry seems to be small.

We give below in Table II (*A*) the order of frequency of the most frequently mentioned motives, and (*B*) the order when we consider only the motives mentioned by a boy within the first four places.

TABLE II.

| <i>Motive.</i>                        | <i>A.</i>               |                    | <i>B.</i>                             |                    |
|---------------------------------------|-------------------------|--------------------|---------------------------------------|--------------------|
|                                       | <i>Times mentioned.</i> | <i>Percentage.</i> | <i>Times mentioned in first four.</i> | <i>Percentage.</i> |
| No. 10. (Would like the work).....    | 247                     | 90%                | 221                                   | 80%                |
| No. 4. (Well paid) ....               | 174                     | 63%                | 125                                   | 45%                |
| No. 5. (Secure) ....                  | 154                     | 56%                | 94                                    | 34%                |
| No. 6. (Feels specially fitted) ..... | 150                     | 54%                | 109                                   | 39%                |
| No. 1. (Father's wish)                | 141                     | 51%                | 113                                   | 41%                |
| No. 2. (Mother's wish)                | 108                     | 39%                | 69                                    | 25%                |

It will be seen that the method of restricting the scores to motives mentioned among the first four (*B*) makes little difference to the order. The order of frequency for the remaining motives is as in Table III. It will be noticed there is a big drop between the score of the highest there and the lowest in the table above.

TABLE III.

LESS INFLUENTIAL MOTIVES.

| <i>Motive.</i>                           | <i>No. of times mentioned.</i> | <i>No. of times in first four.</i> |
|------------------------------------------|--------------------------------|------------------------------------|
| No. 9. (Easy hours) .....                | 62                             | 22                                 |
| No. 11. (Father's occupation) .....      | 53                             | 44                                 |
| No. 7. (Easy to get a job) .....         | 51                             | 26                                 |
| No. 14. (Prospects of advance) .....     | 37                             | 26                                 |
| No. 8. (Job already offered) .....       | 30                             | 9                                  |
| No. 3. (Teacher's suggestion) .....      | 29                             | 15                                 |
| No. 15. (Skill rather than labour) ..... | 27                             | 11                                 |
| No. 12. (Brother's occupation) .....     | 21                             | 13                                 |
| No. 13. (Open air) .....                 | 17                             | 15                                 |

Possibly most of the score of No. 11 (father's occupation) might very well be added to that of No. 1 (father's influence).



AGE DIFFERENCES.

There are no very marked age differences until we come to the sixth forms. Thus, the average order in the list of motives for the five junior forms is 10, 1, 6, 4, 5, 2—the same six which come first for the whole school. In the two sixth forms (average age  $16\frac{1}{4}$ ) there are one or two marked changes. The mother's influence falls to ninth place instead of an average position of  $4\frac{1}{2}$  in the rest of the school ; while No. 14 (prospect of advance) takes fourth place against twelfth place in the two fifth forms (age about 15); and lower places still below ; it is scarcely ever mentioned in the three fourth forms or in the three third forms—average ages 14 and  $13\frac{1}{2}$  years respectively.

This is not unexpected evidence of the increase of the tendency, with increased age and experience, to look further ahead, and is a further confirmation of the idea that delay and further education will lessen the tendency to take a “ blind alley ” occupation.

THE FATHER'S INFLUENCE.

Willard found that the age at which the greatest proportion of children chose one of the parents' occupations was 13 years for boys, after which age the proportion steadily declined.\* In the present investigation we found that the substantial decrease in the proportion of boys choosing the father's occupation occurred after the age of 14, as shown in Table IV.

TABLE IV.

| <i>Ages of Boys.</i>                                                                                                     | 17<br><i>or</i><br>16 | 15 | 14 | 13 | 12 |
|--------------------------------------------------------------------------------------------------------------------------|-----------------------|----|----|----|----|
| Percentage (approximate) of boys giving<br>“ Because it is my father's occupation ” as<br>one of first four reasons..... | 9                     | 13 | 22 | 22 | 10 |
| No. of boys in respective groups.....                                                                                    | 33                    | 69 | 71 | 71 | 31 |

The influence of the father is, however, probably shown at least as reliably in the cases in which the choice of occupation is reported to be made because of the father's wish or advice rather than when the choice of occupation is made because it is the father's. If we add the two together we get the results given in Table V.

TABLE V.

| <i>Ages of Boys.</i>                                                                      | 17<br><i>or</i><br>16 | 15 | 14 | 13 | 12 |
|-------------------------------------------------------------------------------------------|-----------------------|----|----|----|----|
| No. of boys of each age.....                                                              | 33                    | 69 | 71 | 71 | 31 |
| Percentage who give either of reasons I or<br>II as one of chief reasons (first four).... | 42                    | 43 | 44 | 56 | 55 |

\* See Stanley Hall: “ Psychology and Adolescence,” vol. ii., p. 388.

This table shows a definite drop after the age of 13, but the father's influence reveals itself very steadily at the ages of 14 and 15 and even at 16 and 17, though the number of the boys of 16 or 17 is too small to be of much significance.

#### THE TEACHER'S INFLUENCE.

The references to the teacher are surprisingly rare. We knew this school to be a highly efficient one, with a head master of unusual energy and influence. Little time, undoubtedly, can be given by the heads of modern schools to dealing with the question of the future careers of their pupils even if parents seek such help.

TABLE VI.  
TEACHER'S INFLUENCE.

| <i>Forms.</i>     | <i>No. of Boys.</i> | <i>No. of times teacher's influence referred to as a motive.</i> |
|-------------------|---------------------|------------------------------------------------------------------|
| Forms VI and V .. | 87                  | 7                                                                |
| „ IVa, b, c ..    | 82                  | 15                                                               |
| „ IIIa, b, c ..   | 82                  | 3                                                                |

The total for the fourth forms is brought up especially by one form with a score of nine, which may betray the special influence of one teacher.

#### THE LIGHTER SIDE OF THE ENQUIRY.

One of the incidental values of an enquiry of this kind is the freshness, *naïveté*, humour—conscious or unconscious—and pathos of many of the expressions of the boys' hopes and fears. Such constantly refresh the mind of the investigator looking through many papers. Some of these have already been given; we quote one or two others of interest.

No. 87. Office work. Good prospects.

“I was influenced by a professor when I had my bumps felt at Weston-super-Mare.” Suggested occupations were post master, Postmaster-General (*sic*), or office clerk—“an occupation requiring writing or additional work.” “I like office work because I can write easily in many forms, large, small, and medium sizes.”

No. 240. Chemist.

“One thing I hate is being at home and doing nothing, and when you are working you are always happy.”

No. 150. Novelist.

“I have very seldom found myself at a loss for words. I have successfully found little points in myself which I found represented in others, thus perhaps making it easier to imagine the actions of others, and I find that I can make a story interesting. I have always felt a strong admiration for authors. About 12 my chief ambition was to be an engineer, but after the dreams came the reality, and I found myself entirely unsuited to this profession, thus returning to my original dream. This bubble will probably burst as the first



did, and I will find myself incapable of anything in the literary line. I had always flattered myself that I was somewhat ahead of other boys in the reading of good books. As soon as I really professed this idea I began to read the lives of certain authors (who were my ideals)."

And, finally, perhaps the gem of the whole series from a boy of 13 :

"The profession that I have chosen is that of a lawyer. My reasons are that I have the gift of being a good talker and linguist. . . . What influenced me was how I got out of scrapes at school or at home with ease by using my tongue and not necessarily telling lies about it."

### SUMMARY OF RESULTS AND CONCLUSIONS.

(1) A general classification of the papers indicates that more than half the senior boys are either choosing their occupation on wrong or inadequate reasons, or at least, have, themselves, a very inadequate idea of the reason why a given occupation is being chosen for them.

(2) That the nature of the replies is not merely dependent on the intelligence or degree of education of the boys but depends largely on reasons given by the parents is suggested by the fact that boys in the fourth forms give as high a percentage of good judgments as do the fifth forms.

(3) Some decisions, even among the oldest boys, are partly made on entirely erroneous ideas, which could be readily dispersed by a well-informed adviser.

(4) The ease of getting a job, or the actual offer of one, is one of the main motives for one-third even of the senior boys.

(5) Trivial motives, which may exercise a strong appeal at the moment, but are of no value as permanent grounds for choice, occur even among the oldest boys.

(6) There is a widespread desire for a "clean" job. But apart from this, there are frequent indications of a wish for a "respectable" position, worthy of a secondary school education.

(7) Nearly one-third of the senior boys spontaneously give as a main motive one of the three types given here under 4, 5, and 6, apart from reasons based upon erroneous ideas.

(8) With about one-third of the boys there is an intimate connection between their liking for a school subject and their choice of an occupation with which it is closely connected, or for which they think it fits them. In some cases it is evident that the liking for or excellence in a given school subject is misleading as a guide to a choice of occupation.

(9) The enquiry affords a number of illustrations of the influence of adolescent enthusiasm and altruism on the choice of a profession.

(10) The most notable change with age in the frequency of a motive is the sudden increase, at about 16 years, of the cases in which the prospects of advancement are referred to as a main reason.

(11) There is a definite decline in the frequency with which the father's wish or own occupation is mentioned above the age of 14 years. The teacher's influence or advice is very rarely mentioned.

## Non-Scholastic Tests for Backward Pupils.

BY MARY M. MACTAGGART.

IN a recent investigation into the causes of backwardness in the schools of a Scottish industrial town it was found that 42 per cent. of the children examined\* had Accomplishment Quotients† below 100, and their retardation in school work, therefore, could not be accounted for satisfactorily by low general intelligence. After carefully considering each case separately, it was found that 8 per cent. of these cases were apparently backward owing to one of the following factors—weakness in a specific subject, home circumstances, illness, language difficulty, change of school and late enrolment, temperament, or physical defects. Accordingly, 34 per cent. of so-called backward children remained to be investigated. These were mainly children of normal intelligence or only slightly retarded. Take, for example, the results of one school:—

| <i>Pupil.</i> | <i>Intelligence<br/>Quotient.</i> | <i>Accomplishment<br/>Quotient.</i> |
|---------------|-----------------------------------|-------------------------------------|
| 1 .....       | 87                                | 94                                  |
| 2 .....       | 85                                | 94                                  |
| 3 .....       | 103                               | 92                                  |
| 4 .....       | 80                                | 92                                  |
| 5 .....       | 94                                | 92                                  |
| 6 .....       | 104                               | 91                                  |
| 7 .....       | 90                                | 91                                  |
| 8 .....       | 101                               | 91                                  |
| 9 .....       | 98                                | 90                                  |
| 10 .....      | 113                               | 90                                  |
| 11 .....      | 94                                | 89                                  |
| 12 .....      | 103                               | 88                                  |
| 13 .....      | 106                               | 85                                  |
| 14 .....      | 101                               | 84                                  |
| 15 .....      | 120                               | 84                                  |
| 16 .....      | 111                               | 83                                  |
| 17 .....      | 117                               | 81                                  |
| 18 .....      | 104                               | 80                                  |
| 19 .....      | 106                               | 76                                  |
| 20 .....      | 111                               | 70                                  |

As these children were not working up to their innate ability, an endeavour was made to find whether their weak educational ability was compensated for by non-scholastic ability and out-of-school interests. Technical Information Tests for boys and girls, a Practical Test, and Mechanical Aptitude Tests were constructed for this purpose. These tests are non-scholastic in the sense that they do not deal with information and abilities generally cultivated in the elementary school. The Technical Tests and the Practical Test will be described in this article.

\* The investigation was confined to children at the Qualifying stage.

† The Accomplishment Quotient (A.Q.) is the ratio of the Educational Age to the Mental Age. In this investigation the Educational Age was found by taking a simple average of the Composition, Reading, Arithmetic, Spelling, and Writing Ages. In Spelling and Arithmetic Scottish norms were used.



The Technical Information Tests were suggested by the Thurstone Technical Information Test. The test for boys is a modified and simplified form of the Thurstone Test, and the girls' test on household matters is constructed in the same manner.

# TECHNICAL INFORMATION TEST.

Boys.

Name ..... Age .....

In this test you are to underline the ONE of the four answers to each statement which seems to you to be correct. For example :

1. A motor car is kept in a—kennel, stable, garage, club-house. Here you would underline " garage."

2. To keep leather in good condition coat it with—water, grease, dye, paint. Here you would underline " grease."

Do the same to the other examples in this test. Try every one. Underline only ONE of the four answers, and it is to be the right answer you underline.

1.—A magnet attracts—brick, wood, steel, slate.

2.—To sharpen a plane blade one should use—emery cloth, file, sandpaper, oilstone.

3.—Sunbeam is the name of—soap, cycle, window-glass, aladdin lamp.

4.—Bricks are made of—clay, granite, marble, gneiss.

5.—A crystal set belongs to—Crystal Palace, magnifying glass, wireless, spectacles.

6.—The nails in a horse-shoe number—7, 3, 9, 5.

7.—A spirit level is found in—church, hotel, police-office, joiner's shop.

8.—Sandpaper contains—glass, sand, emery powder, brick dust.

9.—A spark gauge is for—lighting matches, making sparks, testing plugs, putting out sparks.

10.—The forecastle of a ship is at the—bow, stern, bridge, quarter-deck.

11.—A Leyland is—aeroplane, railway engine, motor cycle, motor bus.

12.—To prevent tools from rusting rub with—sandpaper, tar, vaseline, file.

13.—A cat's whisker is used in connection with—violin bows, wireless, making of brushes, fur coats.

14.—Tail lamps are used for—tailors, horses, cows, motor cars.

15.—A speedometer belongs to—race horse, motor, ruler, electric fan.

16.—Metals can be joined together by—gluing, riveting, nailing, polishing.

17.—Brooklands is the name of a—country, place where motors are raced, soap factory, bridge.

18.—A centre punch is—a tool, screw, boxing glove, hammer.

19.—Ordinary coal gas is obtained from—stones, iron, coal, cinders.

20.—A weaver uses a—headle, hammer, hurdle, hatchet.

21.—The Blue Peter refers to—railway engine, bird, flower, ship's signal.

22.—Bricks are held together with—glue, sand, chalk, lime.

23.—Black damp is found in—picture houses, mines, chimneys, dampers.

24.—Harley-Davidson is the name of—motor cycle, electric clock, wireless detector, aeroplane.

25.—To keep the barrel of a target rifle in good condition one often uses—mansion polish, Hudson's soap, petrol, three-in-one oil.

26.—A chuck is found on—motor car, bicycle, wheelbarrow, lathe.

27.—Carriage forward means payment by the—sender, Post Office, receiver, carrier.

28.—Locks are made by—Chubbs, Co-operative Society, Maypole Company, Oliver.

29.—A crane is used to—lift heavy goods, roll roads, fish with, enable one to see better.

30.—A piston is found in—revolver, flower, sword, engine.

31.—Ordinary concrete contains—asphalte, cement, glass, rubber.

32.—Rails on railway lines are laid down in parts with a space between each section owing to—economy, it being easier for workmen, expansion, making train jolt.

33.—A Davy safety lamp contains—filaments, incandescents, carbons, gauze.

## NON-SCHOLASTIC TESTS FOR BACKWARD PUPILS.

- 34.—The driver of an electric tram ordinarily controls the current with his—right foot, right hand, left foot, left hand.
- 35.—One part of the door is the—jamb, head, sill, panel.
- 36.—Maxim is a—synonym, machine gun, motor, sewing machine.
- 37.—Cam is a—ship, lath, wheel which does not revolve about its centre, turbine.
- 38.—An earphone contains a—magnet, battery, motor, carburetter.
- 39.—The current which drives a tramcar is got from the—motor, overhead wires, driver, sea.
- 40.—A safety fuse is made of—wood, paper, celluloid, metal.
- 41.—Turbine is—cotton, fish, engine, cam.
- 42.—A live electric wire can be lifted with—a pair tongs, crowbar, one hand, rubber gloves.
- 43.—An insulator is made of—copper, brass, rubber, iron.
- 44.—Cantilever refers to a—building, bridge, boat, screwdriver.
- 45.—A biscuit tin is made of—pure tin, copper, iron, silver.
- 46.—An electric bell is worked by—Léclanché cells, carburetter, motor, dynamo.
- 47.—Ordinary house paint contains—oil, concrete, alcohol, gasoline.
- 48.—A boiler should be made of—tin, glass, copper, rubber.
- 49.—A mason uses a—screwdriver, claw-hammer, King Dick, mall.
- 50.—A volt is—instrument, unit of electricity, cellar, leap.

## TECHNICAL INFORMATION TEST.

### GIRLS.

Name ..... Age .....

In this test you are to underline the ONE of the four answers to each statement which seems to you to be correct. For example :

1.—Fry's is the name of—bovril, cocoa, flour, tea. Here you would underline "cocoa."

2.—Bathbrick is used for—making baths, building houses, cleaning, cooking. Here you would underline "cleaning."

Do the same to the other examples in this test. Try every one. Underline only ONE of the four answers, and it is to be the right answer you underline.

1.—Singer is the name of a—mangle, piano, sewing machine, gramophone.

2.—Mutton is the flesh of—cow, calf, deer, sheep.

3.—To boil meat for soup place it in—lime water, cold water, hot water, soda water.

4.—Cuts should be washed at once with—vinegar, boracic, Brasso, salad dressing.

5.—A lobster when boiled is coloured—black, green, red, yellow.

6.—When washing cretonne first soak the material in cold water to which has been added—soda, washing powder, salt, starch.

7.—What kind of paper should be wrapped round fabrics which are to be stored carefully away?—white, smoked, blue, newspaper.

8.—When making jam use—saccharine, over-ripe fruit, 1 lb. sugar to 1 lb. fruit, brown sugar.

9.—Sundour is the name of—floor polish, soap, raisins, curtain material.

10.—To prevent cakes and pastry burning—place barometer in oven, use electric stove, place dish cold water in the bottom of the oven, press the clutch.

11.—When a fish bone sticks in throat—go to a chiropodist, chew and swallow a crust of bread, bandage throat, lie down in a darkened room.

12.—If your dress catches fire—roll yourself in rug or blanket, run about, 'phone fire brigade, pour on petrol.

13.—To take grease spots out of carpets use—hot iron and brown paper, paraffin, starch, lard.

14.—Lentils, peas, and beans are—pulses, disinfectants, fomentations, minerals.



15.—When cooking green vegetables—use gas stove, keep cover on saucepan, keep cover off saucepan, use iron pot.

16.—A window to ventilate properly must be—made of stained glass, open top and bottom, polished with chamois leather, covered with curtains.

17.—When pickling vegetables use pans made of—iron, copper, enamel, tin.

18.—New potatoes should be—peeled thickly, scraped, halved in three, roasted.

19.—Scotch fingering is the name of—shortbread, pianoforte method, hand-work, wool.

20.—Aluminium must never be cleaned with water containing soda for—it darkens and eats away the metal, soda is too dear, soap is cheaper, soda comes from China.

21.—Marocain is—a biscuit, material for frocks, furniture, powder.

22.—Ventilation means—hot pipes, damper, stuffiness, air carrying.

23.—Kitchen utensils made of aluminium are growing in favour day by day because they—look like silver, are patronized by royalty, are so cheap, heat rapidly and do not tarnish.

24.—Potatoes should be peeled—thinly, like turnips, thickly, with stainless knife.

25.—A fresh fish is—flabby, stiff with red gills, limp, stale.

26.—When a chimney is on fire—pour on paraffin, blow bellows, run to police office and pay fine, throw salt on fire in grate.

27.—To restore surface of cloth which has become shiny rub with piece of cloth sprinkled with—turpentine, tar, varnish, paraffin.

28.—One skein of wool usually weighs—1 cwt., 1 lb., 1 oz.,  $\frac{1}{4}$  oz.

29.—A cheap tin kettle is better than a heavy iron one because—it is bright, it wears better, it does not leak, it boils quicker and saves gas.

30.—Tea and coffee—fatten, stimulate, rejuvenate, purify the system.

31.—A Ewbank is the name of a—savings bank, sheep-skin rug, carpet sweeper, wringer.

32.—Vitamine is found in—fresh milk and fruits, lard, dried fruits, stale bread.

33.—To keep the kitchen sink sweet wash it out with boiling water and—sugar, syrup, soda, saccharine.

34.—When washing flannels—use starch, never rub on soap, soak for a night in cold water, iron when wet.

35.—Flour is coloured—bluish white, faint pink, snow white, yellowish white.

36.—In cases of severe nose bleeding make the patient—go to bed, bend head down, keep head upright, bathe feet in cold water.

37.—Just before putting away the best teapot place inside it—lump of soda, ball camphor, lump of sugar, tissue paper.

38.—When scrubbing wood scrub—up and down, right to left, round and round, according to the grain of the wood.

39.—Wooden floors should never be polished with any wax preparation till—the bees swarm, inspected by R.S.P.C.A., spring cleaning, they are spotlessly clean.

40.—A cheap but pretty tennis frock is made of—velours, ratine, satin, georgette.

41.—Purling is—a game played on ice, stitch in knitting, step in dancing, pearl fishing.

42.—A good table cloth is made of—poplin, cotton, voile, linen.

43.—A skewer is a—squint, large ewer, weapon, pin to fasten meat.

44.—Tweed is made from—silk, wool, flax, cotton.

45.—Selvedge is—an edge, a London shop, selfish man, carpet sweeper.

46.—A mackintosh contains—rubber, georgette, leather, flax.

47.—When making beef tea for an invalid—never let it boil, boil for three hours, cook it very quickly, use mutton.

48.—Wilton is the name of—bacon, carpets, cheese, mops.

49.—To clean milk tumblers—use O'Cedar polish, place in boiling water, use soda water, first rinse with cold water.

50.—Which meat is usually most nourishing?—home-killed, tinned, frozen, foreign.

The tests for boys and girls respectively consist of fifty questions. The simple instructions and examples printed on the cover are read aloud by the teacher and followed by the class. When the children understand what is to be done the signal is given to turn over. There is no time limit. The tests are generally completed by the whole class within half an hour. Pencils are invariably used for speed. One mark is given for each correct answer underlined. No credit is given if the instructions are not obeyed, e.g., if more than one answer, including the correct one, to any statement is underlined. The boys' test, especially, gives rise to animated discussion afterwards. Indeed, in one school a boy (A.Q.74), who is apparently thoroughly uninterested in scholastic work, but is a genius in his father's workshop, brought triumphantly to school on the day following the test a horse-shoe with ten holes ! One question of the test is : The nails in a horse-shoe number—7, 3, 9, 5 ; and the answer expected is 7. In another school so great was the enthusiasm of the boys in a backward class that the master in charge of it gave a series of lessons, within the succeeding weeks, on points raised by the questions.

The correct answers are :—

#### Boys.

- |                               |                                                       |
|-------------------------------|-------------------------------------------------------|
| 1.—Steel.                     | 27.—Receiver.                                         |
| 2.—Oilstone.                  | 28.—Chubbs.                                           |
| 3.—Cycle.                     | 29.—Lift heavy goods.                                 |
| 4.—Clay.                      | 30.—Engine.                                           |
| 5.—Wireless.                  | 31.—Cement.                                           |
| 6.—7.                         | 32.—Expansion.                                        |
| 7.—Jeiner's shop.             | 33.—Gauze.                                            |
| 8.—Glass.                     | 34.—Left hand.                                        |
| 9.—Testing Plugs.             | 35.—Panel.                                            |
| 10.—Bow.                      | 36.—Machine gun.                                      |
| 11.—Motor bus.                | 37.—Wheel which does not revolve<br>about its centre. |
| 12.—Vaseline.                 | 38.—Magnet.                                           |
| 13.—Wireless.                 | 39.—Overhead wires.                                   |
| 14.—Motor cars.               | 40.—Metal.                                            |
| 15.—Motor.                    | 41.—Engine.                                           |
| 16.—Riveting.                 | 42.—Rubber gloves.                                    |
| 17.—Place where motors raced. | 43.—Rubber.                                           |
| 18.—Tool.                     | 44.—Bridge.                                           |
| 19.—Coal.                     | 45.—Iron.                                             |
| 20.—Headle.                   | 46.—Léclanché cells.                                  |
| 21.—Ship's signal.            | 47.—Oil.                                              |
| 22.—Lime.                     | 48.—Copper.                                           |
| 23.—Mines.                    | 49.—Mall.                                             |
| 24.—Motor cycle.              | 50.—Unit of electricity.                              |
| 25.—Three-in-one oil.         |                                                       |
| 26.—Lathe.                    |                                                       |



## GIRLS.

- |                                      |                                  |
|--------------------------------------|----------------------------------|
| 1.—Sewing machine.                   | 26.—Throw salt on fire.          |
| 2.—Sheep.                            | 27.—Turpentine.                  |
| 3.—Cold water.                       | 28.—1 oz.                        |
| 4.—Boracic.                          | 29.—Boils quicker and saves gas. |
| 5.—Red.                              | 30.—Stimulate.                   |
| 6.—Salt.                             | 31.—Carpet sweeper.              |
| 7.—Blue.                             | 32.—Fresh milk and fruits.       |
| 8.—1 lb. sugar to 1 lb. fruit.       | 33.—Soda.                        |
| 9.—Curtain material.                 | 34.—Never rub on soap.           |
| 10.—Dish cold water.                 | 35.—Yellowish white.             |
| 11.—Crust of bread.                  | 36.—Keep head upright.           |
| 12.—Roll in rug or blanket.          | 37.—Lump of sugar.               |
| 13.—Hot iron and brown paper.        | 38.—According to grain of wood.  |
| 14.—Pulses.                          | 39.—Spotlessly clean.            |
| 15.—Keep cover off saucepan.         | 40.—Ratine.                      |
| 16.—Open top and bottom.             | 41.—Stitch in knitting.          |
| 17.—Enamel.                          | 42.—Linen.                       |
| 18.—Scraped.                         | 43.—Pin to fasten meat.          |
| 19.—Wool.                            | 44.—Wool.                        |
| 20.—Darkens and eats away metal.     | 45.—Edge.                        |
| 21.—Material for frocks.             | 46.—Rubber.                      |
| 22.—Air-carrying.                    | 47.—Never let it boil.           |
| 23.—Heat rapidly and do not tarnish. | 48.—Carpets.                     |
| 24.—Thinly.                          | 49.—Rinse with cold water.       |
| 25.—Stiff with red gills.            | 50.—Home-killed.                 |

Six hundred and ninety-seven boys and about the same number of girls were tested twice with the same technical information test, and the correlation between the tests was worked out.  $r$  was found to be  $\cdot95 \pm \cdot0025$  (boys) and  $\cdot97 \pm \cdot0017$  (girls).

The tests were also in turn correlated with Mental Age and Educational Age:  $r$  was found to be  $\cdot37 \pm \cdot02$  (Boys' Technical Test and M.A.) and  $\cdot19 \pm \cdot02$  (Boys' Technical Test and E.A.). The results for girls were very similar.

Seven hundred children at each age were tested for standards of comparison, giving the following table of results:—

BOYS—TECHNICAL TEST.

| <i>Age.</i> | <i>Provisional Norms.</i> |
|-------------|---------------------------|
| 9           | 13                        |
| 10          | 18                        |
| 11          | 23                        |
| 12          | 28                        |
| 13          | 36                        |
| 14          | 41                        |

## GIRLS—TECHNICAL TEST.

| <i>Age.</i> | <i>Provisional Norms.</i> |
|-------------|---------------------------|
| 9           | 11                        |
| 10          | 16                        |
| 11          | 23                        |
| 12          | 27                        |
| 13          | 35                        |
| 14          | 39                        |

## THE PLAN TEST.

This test, which is also a group test, was constructed first of all for girls but has been found equally valuable for boys. Each child is supplied with a sheet of ruled paper, as well as with a copy of the test, and is told to look at the front page of the test, but not to open it till the signal is given. As the subject's remarks are recorded by him on the ruled paper, the actual tests can be used many times, and are thus quite economical. The answers to this test also are written in pencil. On the front page of the test there is a practice test containing a plan of two rooms, with special kinds of lines to indicate windows, doors, and fireplaces. The instructions are :

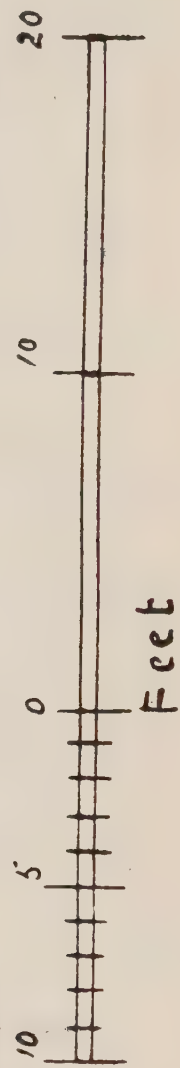
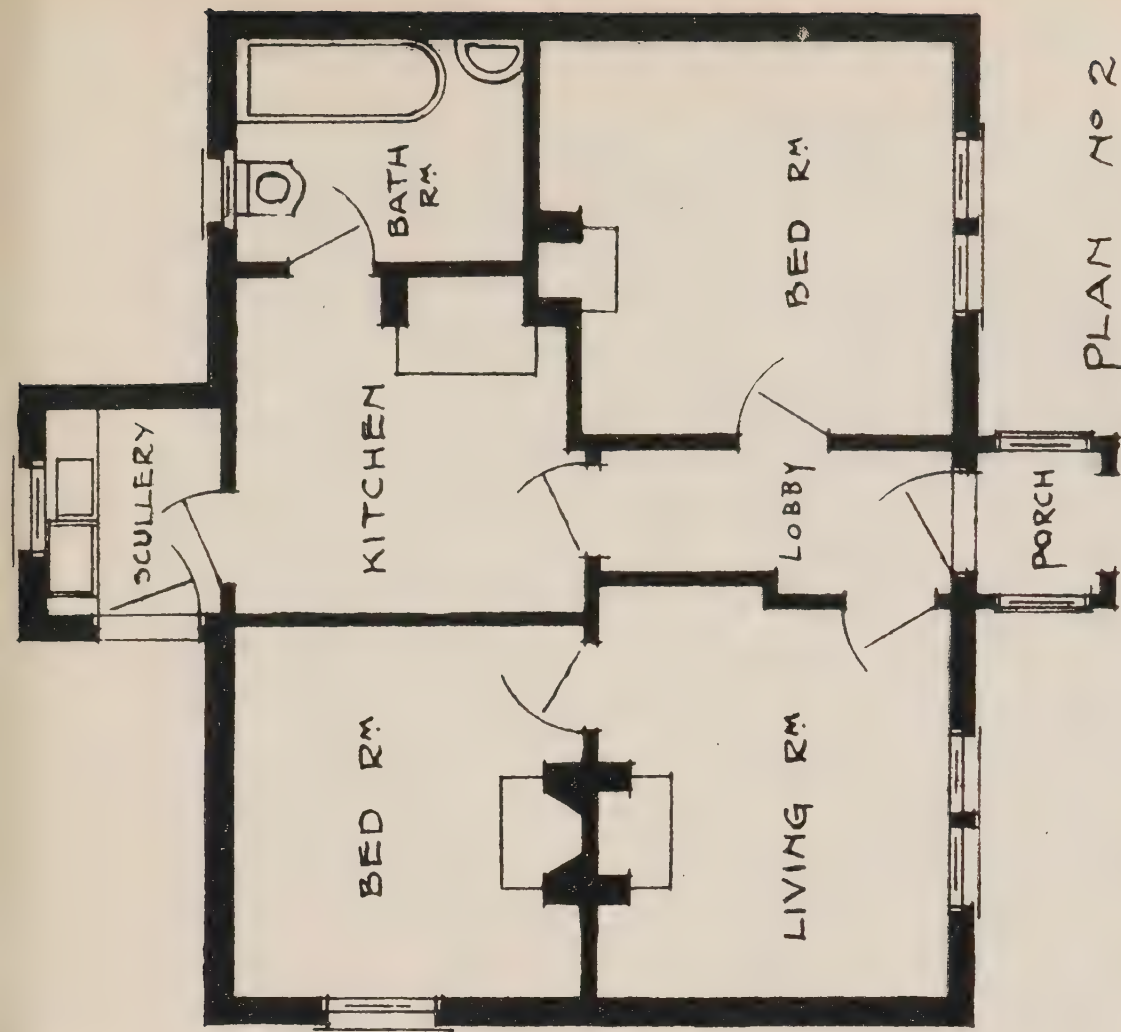
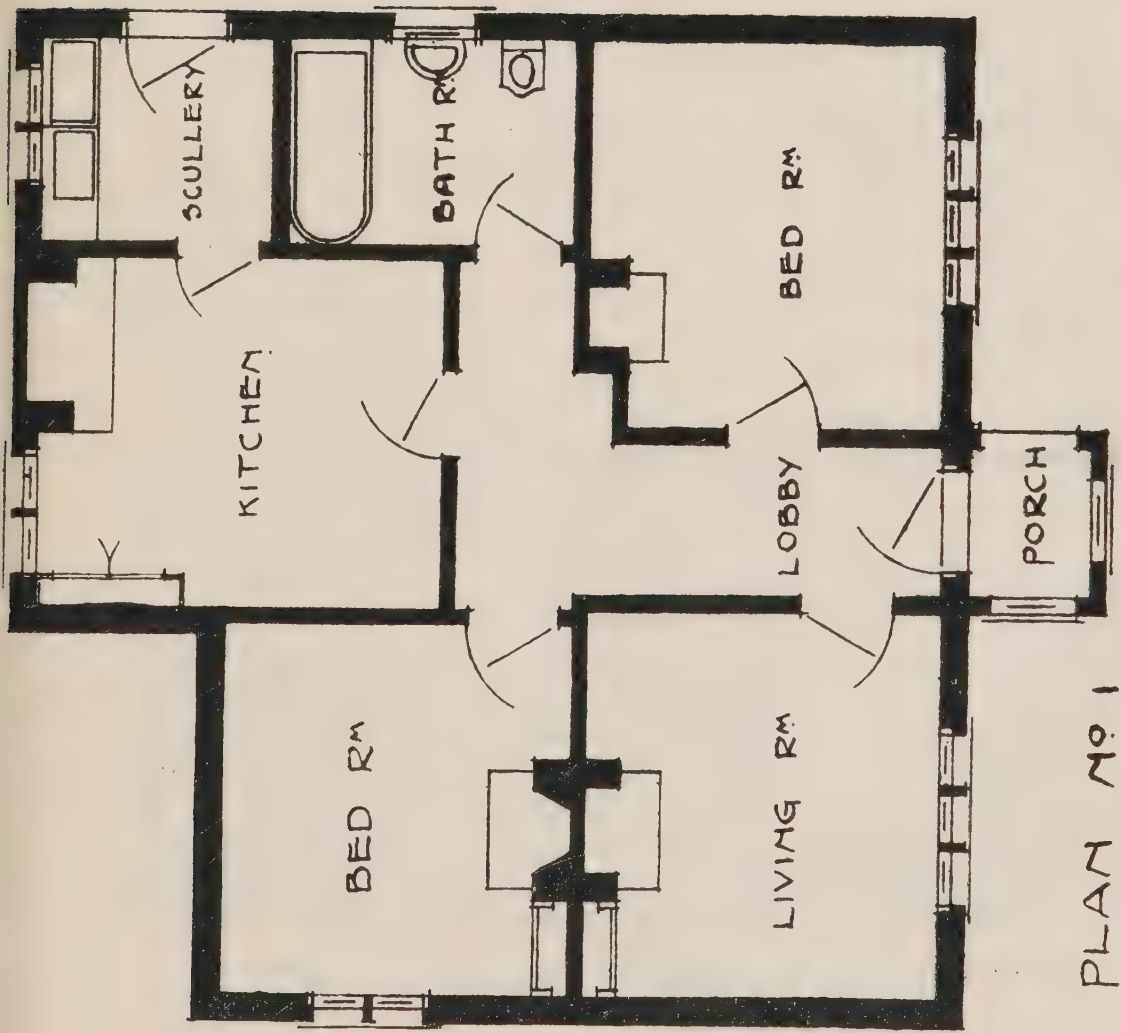
You know that before a house is built a plan of it is drawn and by reading a plan we know how the house will look when finished. On this page you see part of the plan of a house showing a bedroom and a parlour. Below there is a key telling you what the various lines mean. Now look carefully at it and then point to the bedroom door (experimenter looks to see if everyone is correct), the parlour fireplace, the bedroom window, the parlour window, the bedroom fireplace.

Each child must be able to point to these correctly before the experimenter asks the subjects to turn over the page to the real test.

In the real test the plans of two houses are shown side by side, as in diagram.

The scoring of this test presented more difficulty than that of the Technical Information Tests. In ascertaining the mark for each reason of preference, weight was given according to the importance of the fact pointed out and also according to the degree of obscurity of the fact pointed out. For example, if a subject objects to the kitchen in the second plan having no window he is given ten marks—six for the importance and four for the obscurity of the fact noticed by him. If he objects to the bathroom opening off the kitchen he receives eight marks—six for the importance and two for the obscurity of the reason given. While the facts of the kitchen having no window and the bathroom being off the kitchen are regarded as equally important reasons for disliking Plan No. 2, the first objection is far harder to discover than the second, which can be seen at a glance. Accordingly the second reason, being more obvious, only receives two marks for the degree of obscurity of the objection raised, while the first receives four marks.





Here are the plans of two houses, both of which have the same number of rooms. One of the plans is very much better than the other. Examine both houses carefully. Write down, on the sheet of ruled paper (experimenter holds a sheet up), which is the good plan and say why. Although you choose the right plan, no marks will be given, unless you give correct reasons.

The full scheme of marking is :—

| <i>Reason.</i>                                                                                                                                                                         | <i>Weight given to Importance.</i> | <i>Weight given to Degree of Obscurity.</i> | <i>Total Score</i> |
|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------------------------------------|---------------------------------------------|--------------------|
| (1) No kitchen window in II. ..                                                                                                                                                        | 6                                  | 4                                           | 10                 |
| (2) Bathroom off kitchen in II ..                                                                                                                                                      | 6                                  | 2                                           | 8                  |
| (3) Back door in II collides with scullery door when both opened (4 marks). Front door and living room door also (4 marks) .. ..                                                       | 3                                  | 5                                           | 8                  |
| (4) Scullery should be near bathroom for water supply, as in I .. ..                                                                                                                   | 2                                  | 4                                           | 6                  |
| (5) Bedroom off living room in II ..                                                                                                                                                   | 4                                  | 1                                           | 5                  |
| (6) Porch entrance in II causes through draught and (or) no privacy ..                                                                                                                 | 3                                  | 1                                           | 4                  |
| (7) Doors open wrong way in II ..                                                                                                                                                      | 1                                  | 3                                           | 4                  |
| (8) Unnecessary corner in living room in II and (or) in lobby .. ..                                                                                                                    | 1                                  | 2                                           | 3                  |
| (9) Small central hall in I ; none in II                                                                                                                                               | 1                                  | 2                                           | 3                  |
| (10) Sinks in II too close to back door for safety of anyone standing washing when door opened .. ..                                                                                   | 1                                  | 2                                           | 3                  |
| (11) Windows in I provide better regulation of ventilation all over house or look more ornamental or are easier to raise or to clean, or cost less to replace when a pane is broken .. | 3                                  | 0                                           | 3                  |
| (12) Step in porch in I not in II (credit given if step called door) .. ..                                                                                                             | 2                                  | 1                                           | 3                  |
| (13) Bathroom—position of bath, etc., superior in I .. ..                                                                                                                              | 2                                  | 1                                           | 3                  |
| (14) Press or cupboard in living room, kitchen and bedroom of I. None in II. (1 mark for each mentioned)                                                                               | 3                                  | 0                                           | 3                  |
| (15) Superior position of kitchen fireplace in I from builder's point of view or because nearer scullery or because of draught .. ..                                                   | 1                                  | 1                                           | 2                  |
| (16) Lobby larger in I .. ..                                                                                                                                                           | 1                                  | 0                                           | 1                  |
| (17) Kitchen bigger or rooms larger in I                                                                                                                                               | 1                                  | 0                                           | 1                  |
| Highest mark possible ..                                                                                                                                                               |                                    |                                             | 70                 |

No marks are given when the wrong plan is chosen or for statements such as : There are more windows in Plan I, the doors in Plan I are better, I is cosier, Plan II has too many corners, the scullery in I is better, or for simply describing one or both plans without attempting to say which is superior and giving reasons.

These marks, though arbitrary, were determined only after a considerable number of subjects were examined with the Plan Test. Two thousand two hundred and eighty-two children (two with intelligence quotients of 165 and 167 respectively), fifty reformatory boys, and twenty teachers were tested in all. Again no time limit was imposed, but children aged 12-14 years usually complete the test within three-quarters of an hour. The idea of the plan of a house does not, as a rule, appear so difficult for a child to understand as we might at first imagine. It



is, as one small subject remarked, "Easier than maps," and as another said afterwards to her teacher, "It is just the same as when you play at houses in the garden with stones and you have to pretend the walls and ceilings are there." One of the most interesting results obtained with this test was from a girl aged 14 years and 1 month. Throughout most of her school career, and, indeed, until exactly a year before the time she was tested by me, she was regarded as mentally defective. She was then taken in charge by a very experienced teacher, who coached a backward and over-age class for the Qualifying Examination. The results from the Intelligence and Educational Tests given are: Mental age 15 years 8 months, Intelligence Quotient III, Reading Age 9 years, Arithmetic (mechanical) Age 9 years, Spelling Age 12 years, Composition Age 12 years, Writing Age 14 years, Educational Age 11 years 2 months, Accomplishment Quotient 71. Her performance on the plan test was almost perfect, and was as good as the best performance by any teacher tested, the best being from a science master with two honours degrees. It should, perhaps, be added that, in the backward class of which this girl was for a year a member, very special emphasis was laid on Composition. This no doubt accounts for her Composition and Spelling Ages being higher than her Arithmetic and Reading Ages. The Composition and Spelling of the whole class was particularly good for the level of intelligence of the class.

When the results of the Plan Test were correlated with Mental Age  $r$  was found to be  $.54 \pm .04$ , and when correlated with Educational Age  $r$  was  $.24 \pm .02$ .

The correlation between these non-scholastic tests described and general intelligence is not high and between the non-scholastic tests and school work the correlation is even lower. These practical tests have then given us clues to abilities which would not necessarily be revealed by intelligence or scholastic tests alone. The Mechanical Aptitude Tests (picture tests, after Stenquist) show still lower correlation with general intelligence and tap further out-of-school interests.

In the actual investigation 27 per cent. of the 34 per cent. of so-called backward children tested with the non-scholastic tests responded better to the practical tests than to the scholastic tests. Practical, technical and mechanical work is apparently more suitable for them than the usual school routine. The performance of the remaining seven per cent. was not better than their scholastic performance.

The main inferences from these results are: 27 per cent. of the backward pupils at the Qualifying stage in the schools of the industrial town selected are mal-adjusted to the present conditions of the curriculum. While in many cases their intelligence is normal, they do not respond to the scholastic work in the elementary school. In spite of this, outside of school they are, apparently, eager, active, alert and keenly interested in what goes on around them. They possess abilities and interests of which not much account is taken, at present, in the school curriculum. If, then, some changes in the curriculum were made for these "backward" pupils so that it would include work which would appeal to

them and suit them, the probability is that they would gain in self-respect and confidence and consequently their scholastic difficulties would considerably diminish.

It is not claimed that these tests will pick out Charles Darwins, Napoleon Bonapartes and Robert Fultons when they are yet dullards at school work. Their value lies in the fact that they sometimes turn a search-light on out-of-school abilities and interests and reveal an avenue of approach to scholastic work through a better understanding and appreciation of a difficult pupil.



## A Demonstration Rural School.

BY ALEXANDER LAW, M.A.

AN important feature in the training of teachers for Protestant rural schools at Macdonald College, Quebec, is the demonstration rural school. The aim of this part of the training is to show to the students the ways of teaching several classes in different subjects in one room at the same time. The demonstration occupies the last three days in the training of those students who, after a course of training lasting only four months, are going to teach, most of them, in one-teacher schools with less than forty pupils. The demonstration continues for three days, and the writer had the privilege of being present at that held on December 17th to December 20th and 21st, 1926.

A "rural school" had been chosen from the lower grades of the Macdonald High School, which is the practising school for the School of Teachers of Macdonald College. Twenty children had been selected, and divided as follows :

|         |       |          |                    |
|---------|-------|----------|--------------------|
| Grade 1 | ..... | 3 pupils | (i.e., age 6).     |
| ,, 2    | ..... | 5        | ,, (i.e., age 7).  |
| ,, 4    | ..... | 6        | ,, (i.e., age 9).  |
| ,, 5    | ..... | 6        | ,, (i.e., age 10). |

No children were taken from Grades 3, 6, and 7, which, with the above four grades, compose the elementary school, but this omission was caused only by lack of accommodation. Four grades were selected, because it is usual to arrange the seven grades of the elementary school into four classes : Classes 1, 2, and 3 each covering the work of two grades, and Class 4 covering the work of Grade 7—in the rural schools of Quebec.

The teacher, one of the staff of Macdonald High School, had had long experience in the rural schools of Quebec and was particularly able in the work. She was an example to the students of what a rural teacher ought to be.

The "rural school" was held in the assembly hall of the high school, the students observing being seated behind the classes.

The rural school classes were seated in "Moulthrop" combination seat and desks, which were peculiarly suitable for a demonstration of this kind, since they are easily adjustable for children of different sizes and can be moved into positions convenient for the teaching of four classes at once. Grades II, IV, and V were arranged in groups as in the usual rural school ; and Grade I sat near the teacher, beside her desk. The students were seated in collapsible seats like those used in theatres. An ordinary classroom would not have sufficed for the demonstration, as there were in this case case forty students observing.

The time table, copies of which were distributed among the students, was drawn up in a similar way to that followed in the rural schools of Quebec. The making up of that time table shows another interesting phase of the training of rural school teachers at Macdonald College. In this case, it had been prepared by the students themselves in collabora-

# A DEMONSTRATION RURAL SCHOOL.

tion with the lecturer in elementary education, Mr. A. R. B. Lockhart, M.A. This experimental time table was thus put in actual practice with the acquiescence of the teacher, who in previous years had been accustomed to make up her own programme.

The daily schedule was as follows ("recitation" lessons are printed in italics) :

## DEMONSTRATION IN RURAL SCHOOL MANAGEMENT AND METHODS.

### TIME TABLE.

#### ELEMENTARY.

December 17th, 20th, and 21st, 1926.

| TIME.            | GRADE I.              | GRADE II.              | GRADE IV.              | GRADE V.               |
|------------------|-----------------------|------------------------|------------------------|------------------------|
| 9-10 ....        | Open Exercises        | Open Exercises         | Open Exercises         | Open Exercises         |
| 9-10—9-30 ....   | <i>Recite Reading</i> | Study Reading          | Arithmetic             | Arithmetic             |
| 9-30—9-45 ....   | Transcription         | <i>Recite Reading</i>  | Arithmetic             | Arithmetic             |
| 9-45—10-0 ....   | Letter Boxes          | Writing                | Study Spelling         | <i>Grammar</i> (3)     |
| 10-0—10-15 ....  | <i>Number Work</i>    | Study Spelling         | Study Spelling         | <i>Composition</i> (2) |
| 10-15—10-30 .... | Writing               | Study Spelling         | <i>Recite Spelling</i> | <i>Grammar</i> (3)     |
| 10-30—10-40 .... | Employment            | <i>Recite Spelling</i> | Study Reading          | <i>Composition</i> (2) |
| 10-50—11-30 .... | Cut-out Work          | <i>Arithmetic</i>      | <i>Arithmetic</i>      | <i>Arithmetic</i>      |
| 11-30—11-50 .... | Employment            | Arithmetic             | <i>Recite Reading</i>  | Arithmetic             |
| 11-50—12-0 ....  | Singing               | Singing                | Singing                | Singing                |
| 1-30—1-45 ....   | <i>Reading</i> (3)    | Study Reading          | <i>Composition</i> (2) | Study Memory           |
| 1-45—2-0 ....    | Transcription         | <i>Recite Reading</i>  | <i>Grammar</i> (3)     | Work                   |
| 2-0—2-10 ....    | Physical Drill        | Physical Drill         | Study Memory           | Write Memory           |
| 2-10—2-30 ....   | Employment            | Study Memory           | Work                   | Work                   |
| 2-30—2-45 ....   | <i>Script</i> (1)     | Physical Drill         | Physical Drill         | Physical Drill         |
|                  | <i>Story</i> (2)      | Study Memory           | <i>Script</i> (3)      | <i>Script</i> (3)      |
|                  | Language (1)          | Work                   | <i>Nat. Study</i> (2)  | <i>Nat. Study</i> (2)  |
|                  | Nat. Study (1)        | <i>Script</i> (1)      | Write Memory           | Study (3)              |
| 2-45—3-0 ....    | —                     | <i>Story</i> (2)       | Work (3)               | Drawing (2)            |
| 3-0—3-20 ....    | —                     | Language (1)           | Drawing (2)            | —                      |
| 3-20—3-45 ....   | —                     | Nat. Study (1)         | —                      | —                      |
|                  | —                     | —                      | <i>English</i> (3)     | Study Spell. (3)       |
|                  | —                     | —                      | Writing (2)            | <i>English</i> (2)     |
|                  | —                     | —                      | —                      | <i>French</i> (2)      |
|                  | —                     | —                      | —                      | <i>Spelling</i> (3)    |
|                  | —                     | —                      | —                      | <i>Geography</i> (2)   |
|                  | —                     | —                      | —                      | <i>Reading</i> (3)     |

The aim of the whole demonstration, as is shown by a glance at the time table, was to illustrate the co-ordination of methods whereby three classes could be employed by themselves, while the teacher attended personally to the fourth. Several new methods were shown in actual use. Thus Grade I did cutting-out work, sewing, and colouring. Letter-boxes were also used. Grade II did its silent reading by means of the "individual work" scheme devices. Naturally, there was not the same need for these in the upper grades, where written work could be expected. In these grades, however, pupils themselves wrote the exercises in arithmetic or



grammar on the board for the rest of the class to follow, thus saving the teacher's time.

There were occasions, too, when the whole school took part in certain lessons. There was ten minutes of physical drill in the afternoon, for instance, besides "setting-up" exercises. The singing, naturally, was also done by the whole four classes together. As it was near Christmas-time, the song sung most frequently was that simple carol, "Good King Wenceslas." In the afternoon of the last day a Christmas tree was drawn on the blackboard, and the children cut out, in coloured paper, various decorations for it; carols were sung; and thus was demonstrated to the students how an anniversary like Christmas could be celebrated without much expense in a small school.

During the demonstration students were allowed to come forward and examine the work being done by the various classes.

The value of this demonstration at the end of a course of training cannot be over-estimated. Because of the close relationship existing between the high school and the lecturing staff of the school for teachers it was possible thus to summarize in an objective form many of the best methods of teaching advocated theoretically during the session. Schemes which appeared to be faddish in class—such as the employment of silent reading devices—were shown to have practical value.

Further, it is too often forgotten that the teacher of a rural school requires a special training in addition to the course for the general class teacher. In most training colleges instruction in methods of teaching is concentrated on classroom instruction—that is to say, the teaching of one class in a room by itself. This instruction alone is not sufficient for young teachers who, on leaving college, will have to manage four classes in one room at the same time. For these young teachers, enough emphasis can never be laid on the value of the proper assignment of home work, the giving of seat work which will take up the whole of the child's attention, and the constant necessity of testing, drill, and review lessons. It is absolutely necessary to demonstrate economical methods of teaching and of time table making. In this demonstration while the teacher was engaged in hearing Grade IV "recite," Grade I was using letter boxes, and Grades II and V were working by themselves at arithmetic.

Another point of great value in this demonstration lies in the fact that it lasted longer than the usual demonstration or criticism lesson. The fault—freely admitted by all—in the criticism lesson system is in its occasional nature. Continuity, constant repetition, revision, and review—secrets of successful teaching—are glaringly absent. This demonstration avoided that fault, lasting as it did for three days. A longer period would have encroached too much on the time of the high school, but in those three days there was amply shown continuous school work, with its somewhat monotonous but nevertheless necessary "drive."

That some provision should be made for the special training of the rural school teacher in Great Britain is becoming increasingly evident. A scheme whereby students would go to work in rural schools as apprentices would, no doubt, be the best remedy. It is difficult, however, to arrange for supervised teaching in rural schools. Where the opportunity of teaching in rural schools or of observing in them cannot be obtained, the method outlined in this article, so far as it goes, would be the most successful.

## The Function of the School for the Young Child.\*

By SUSAN ISAACS.

In making an attempt to define the function of the school for the young child, I must make it clear from the beginning that I have in mind the school for the intelligent normal child coming from what would ordinarily be called a good home. The experience on which the suggestions I shall offer are based has been gained during three years' work with highly-intelligent children of professional parents at the Malting House School, Cambridge.† I am not here concerned with the school as a substitute for a bad home, but with the perhaps more novel suggestion that even for the child of three and four years of age with a comfortable home and intelligent parents, there are things which the school can do, and which, from the nature of the case, the home can hardly be expected to do. The age at which such children are usually sent to school—six or seven or eight—is, of course, determined by historical accident and social convention, not by any direct and fresh examination of the problem as such. I shall need to ask you to free yourselves for the moment from the hold of these conventions and consider the problem *de novo*. Facing open-mindedly, then, the question of what the young child needs as educational aids in his development, one naturally turns to genetic psychology as the ground-work of the problem, and at once meets certain deep-seated confusions with regard to fundamental aspects of the educational problem: confusions which are bad in their results alike for psychology itself and for pedagogy: confusions as to the functions of the parent-figure. In all the changes that have taken place in educational practice in recent years, in the movement towards what is called "freedom" and "self-government," in spite of all the endless discussions that have centred in the function of authority in education, there still exists much confusion of actual fact and obscuring of exact psychology by the struggle between traditional fears and sentimental liberalism, in other words by political images. We have discussed whether the child *should* be free, whether he ought or ought not to have the help of authority; but we have hardly stopped to ask, as a matter of exact psychology, whether the child *can* be free, whether the parent and the parent-figure can, by an act of will, divest themselves of parental attributes.

The confusion, it must be said, exists in the minds of some psychologists no less than in those of the pedagogues, and the psychologists clearly must bear the chief weight of criticism in this regard, in so far as they themselves have failed to get clear the precise relations of psychology and pedagogy.

It will assist the main purpose of our discussion if we throw a passing glance at this from the point of view of psychology itself.

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\*A paper read to the Education Section of the British Psychological Society, May 9th, 1927.

†Much of the detailed technique that is being worked out there was originally devised by Mr. Geoffrey Pyke, who initiated and brought together the school, and who has throughout contributed the most illuminating suggestions and criticisms, and collaborated closely in the work of the school.



An examination of some of the contributions of genetic psychologists makes it clear that a very great number of supposed psychological observations are permeated through and through by pedagogic influences and moral judgments, and that the psychologists in question are themselves quite unaware of this, and, therefore, unable to make any allowance for it in their own conclusions. The most outstanding example is that of the world-renowned and world-quoted Stern, who bases his genetic psychology mainly on observations of his own children, and as a result of these observations feels himself entitled to hold very definite opinions upon theoretical problems of first-rate importance, such as the emotional development of children and infantile sexuality. A careful perusal of the observations given\* makes it clear that a very particular standard of personal manners and morals was imposed upon these children, and that the parents' approval and disapproval were constantly used to control the children's behaviour in the most effective manner. The strength, severity, and immediacy of the inhibiting reactions in the parents are indicated in the following quotation :

P. 534. *Hilde* (3—9).—"When she is disobedient, the threat of the other room, or even the way I reprove her either with a word or in silence is always effective. Nothing is more terrible to her than to see me look 'sad.' She begs almost with tears : 'But you look so sad, do, do be happy again !' And when I lose the 'sad' look, the joyful cry comes : 'You're not sad any more ?' and H—— quickly forgets her own troubles. For a few days now, she asks, whenever she has been naughty : 'But I may still love you, mummy ?' Often I do not even scold the children when they are tiresome, only look at them reproachfully or sadly, and the transformation is complete. Neither of them can bear to see their mother sad for two minutes : 'I'll be good,' they sob, so that there is never any lasting discord, and sunshine follows the shower."

And an indication of how the guilt factors in the child were stimulated and welcomed is given in the following :

P. 538 (3—5).—"Hilde now punishes her little naughtinesses at our request, either spoken or expressed, by a reproachful look, with a slap on her fingers. This began with my once saying to her : 'Mother does not want to whip you, give yourself a slap.' She quickly adopted this kind of punishment ; indeed, she often anticipates our penal intentions by saying : 'I'll beat myself without you,' and takes up the matter seriously, putting considerable energy into it. Thus she herself makes expiation for her own fault and so restores her psychic equilibrium. In younger days, she often asked me to give her a slap when she considered it deserved."

It seems clear that observations of children's behaviour made under such conditions are without value as negative evidence on any question of the native interests and innate trends of the child, and that they have positive value only in reference to those particular children, in relation to those particular parents. What they throw light upon is not the native constitution of the child's mind, but a specific relation between parent

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\*W. Stern : "Psychology of Early Childhood." (Allen and Unwin. Third Edition.)

and child, and, what is more, a specific technique of pressure by the parent on the child. Indeed, it seems surprising that at a time when the technique of intelligence testing on the one hand, and on the other that of experiments upon animals, have been made so precise and standardized so highly, such observations as these, gathered under conditions so highly uncontrolled from the psychological point of view, so rigidly controlled from the point of view of pedagogy and morals, should be held for a moment to have evidential value as regards the native tendencies of the child's mind and its natural phases of development.

I would suggest, moreover, that it is not only with regard to the emotional life that the influence of the adult has to be taken into account and needs to be fully understood and stated. This is clearly also true with regard to intellectual processes such as, for example, the development of causality. One cannot lay down any general rule as to the phases through which the child's notion of causality necessarily passes until one has under control every possible stimulus to the direction of the child's mental processes given by adults. One must know, for example, when first, and how, and how frequently, such terms as "why" and "because" have been used by adults in the presence of the child. I do not suggest that there are no natural phases of development, but only that we cannot know how far these follow in a given order, or what is their natural period of onset and duration, until we have an exact record of the external stimuli. Even the asking of questions, with apparent indifference to the answer, itself involves an active relationship with the child, and, therefore, introduces obscuring factors. The same reflections could well be made on the question of the child's need for phantasy, particularly in the form of the fairy tale. To this I shall return later.

So far, then, what I am suggesting is that over a large range of observations psychologists have not been mere observers, but have failed in distinguishing the functions of the parent and the psychologist in a way that has destroyed their value as observers. Now, let us turn to the problem from the point of view of the educationist, and ask whether, as recent fashions in educational theory appear to assume, the pedagogue can be psychologically passive, whether the educator can, in fact, divest himself of parental attributes, whether we can, and in what sense, give actual freedom to the children in our schools. I suggest that the answer is "No"; that, in psychological fact, any adult who is in any sustained relation with the children cannot abdicate his parental function.

In this connection I would suggest that the educational sense of Madame Montessori has always been greater than her theoretical clarity. In spite of all her eloquence about freedom, she does, in fact, most rigidly select the child's impulses and determine the form in which they shall develop; her method, in fact, exerts a pressure which, even if subtle, is much greater than is generally allowed for in expositions of her system. My own criticism of the method would indeed be on this ground; namely, that her interference is in certain important respects arbitrary and pedantic. To this, however, I shall return; for the moment I am concerned only with the theoretical confusion.

I suggest, then, that any adult present with children, and entering into a continuous relation with them, cannot be a mere observer. He



may refrain from active interference with the children, from telling them what to do and what not to do ; but from the nature of the case he cannot be psychologically passive if he shares in any form the activities of the children or enters into any sort of relation with them. If he were invisible he might be a mere observer. If he is physically present, but has no sort of responsibility for anything that happens, merely following the children round, listening to what they say and do, never commenting, questioning, or responding, he may get nearer to the passivity of a mere observer. My own experience, however, suggests very definitely that if present at all, he is psychologically active, and cannot voluntarily abjure the functions of a parent-figure. This conclusion is based upon an intimate contact with children over three years, under conditions that would usually be considered extremely "free." The children have, in fact, enjoyed a high degree of concrete freedom. They have had, that is, freedom from the ordinary checks and prohibitions, commands and penalties, approvals and disapprovals, of the adult, indeed, from all the ordinary adult superiorities and moralizations. They have had complete latitude in the choice of their own activities, their own material and mode of using it, and the length of time given to any pursuit. They have been free to talk and run and shout, free to create either by fantasy in imaginative play, or by real handling of clay and wood and bricks. They have been free to love and hate and free to express their love and hate. It would, however, be very misleading to think of this freedom merely in quantitative terms. The quantity of freedom has been very much greater than is usual, not because of any sentimental worship of abstract freedom, but for qualitative reasons, such as the desire to arrive at the minimal positive interference of the ordinary pedagogic type necessary for social health and intellectual advancement, and the purpose of observation with regard, for example, to the question of any "natural" succession of phases of general development, or "natural" order of intellectual and social growth. I shall presently describe some of the detailed ways in which the behaviour of the children has been, in fact, conditioned—conditioned, however, not by persons so much as by situations. For the moment it is enough to emphasize the fact of freedom from the ordinary adult control. Watching children in these circumstances, then, one sees that the adult is, nevertheless, an active psychological factor to the children. The evidence shows (*a*) that even with the parent who is the mildest in reality the children create for themselves a picture of a tyrant, and (*b*) that the passive adult, the observer-educator, is in turn assimilated to the parent-figure. Time will not allow me to develop the evidence for this at any great length, although I hope to do so elsewhere, but some brief reference must be made to it.

For example, a boy of four who had never been scolded, still less punished, this being entirely contrary to the educational methods and principles of his parents, told a visitor one day, to the astonishment of his parents, that his father often whipped him ; and, again, at six years of age, when he accidentally broke a bottle of his father's eye lotion, he spoke of it throughout the day in such terms as : " Oh, won't daddy be angry with me," although, in fact, his father had never been angry about such matters.

Again, one remarkable characteristic of the children's make-believe play of the family is the tyranny and scolding on the part of the make-believe mother or father, and this in the case of the children who have themselves in reality enjoyed the mildest possible up-bringing. The boy first mentioned, for example, who had never heard such words as "naughty" until he heard them from other children in school, would yet join in the most emphatic use of these words to the babies; and a girl who had a mother of the gentlest temperament would take a younger child, and bang her up and down on the seat, with "You naughty child; you bad, wicked baby."

The following episode occurred with this latter child, a seven-year-old girl. She had been playing with her dolls, and presently said: "... that her's had been a 'horrid little beast,' that it had 'been fiddling about in the pram all the time,' and that she would 'give her a good whipping.' She washed the doll, and then said, 'Say "Good-night" to Mrs. Isaacs,' and made the doll kiss me, and then said to the doll, 'Go straight to bed, and do not fiddle about and do such horrid things.' The child herself was in a mood of defiance just before this, saying that she would 'tell her daddy not to give me any money,' although she 'would come to school all the same,' and threatened to squeeze up some number cards and throw them away. Then followed this doll episode, after which she settled down and was much more constructive and friendly."

No less striking is the eagerness with which the same children, who had never been punished or reprimanded, seized upon the idea of the tyrannical parent or teacher when given to them, for example, in the shape of the rhyme "Dr. Faustus," which they immediately dramatized, begging me to be *Dr. Faustus*, and chase them round the room with a stick. Or often they have invented games of the same kind; for example, invented compulsion for work when they were doing quite a free task, saying sometimes, "Oh, she will smack our heads if we do not do this." When I laughed and said, "Shall I?" they said, "Oh, *will* you?" and I had to join the game of pretence of doing this. Or in the middle of a similarly self-imposed task, "Oh, I hate Mrs. Isaacs; she *makes* us do this."

On other occasions I have known children say of me, "Oh, she's angry. Oh, she's cross," when this was very far from the truth, when my attitude of mind happened to be entirely that of the observer and recorder. They knew, of course, that most adults with whom they were familiar would have been angry in similar circumstances, but in so far as knowledge counts at all, they also knew that I had never been so in similar situations. And in their remarks there was unmistakably present an element of wish that I *should* be angry.

Not only do they fantasy this, and accuse one of it, but they sometimes make persistent attempts to produce it in reality, to provoke one to impatience and anger. And on the occasions when they have succeeded in provoking the adult to some show of anger or disapproval, their affection and readiness of social response has been greater afterwards. I have known cases in which this was extraordinarily marked. If a child had succeeded in finding the end of my tolerance, so that I judged it necessary to interfere actively, or to show a sign of disapproval, there has at once been apparent a sense of relief in the child, any hostile impulses being



resolved, and positive influences of affection and docility taking the field. It thus becomes clear that the popular idea that psycho-analytic observations call for a simple removal of adult interferences, given which children will naturally develop into well-ordered and social beings, is as clumsy a distortion of the truth as the older fallacy of "Spare the rod and spoil the child."

As might be expected, these phenomena are most closely connected with the interests most usually tabooed. When under these "free" conditions the children's native interests in "where babies come from" and "what father and mother do," and in excremental processes and erotic sensations—when these interests are expressed in talk or action very careful observation will detect an element of defiance in the children's attitude. That is to say, even in the presence of adults who have never checked these interests at all, neither by overt disapproval nor by those minute and subtle signs of dislike to which children are so quickly sensitive, and, most strikingly, even in the case of children whose *parents* have never inhibited or interfered with any of these interests, it is still, I think, clear to a watchful observer that you do not have a perfectly simple and direct expression of these libidinal trends, but a complex expression of a complex state of mind in the child, one element of which is undoubtedly guilt, and another defiance and hostility to adults. The invariable accompaniment of excremental interests in the children by an attitude of hostility and defiance to adults, easily observable amongst normal children under free conditions, although more marked in the case of neurotic children, is a very definite confirmation of the psycho-analytic conception of an anal-sadistic stage in libidinal development, a conception derived in the first instance from the psycho-analysis of adults. But the picture is still more complex than that. The frequency with which young children accustomed to freedom of expression will call their parents and other adults "dirty" or "horrid" (for example, one small boy of three years of age, entirely normal and delightful, whose morning greeting of his father when he wakes up is always a playful "Dirty old daddy") can hardly be understood as other than an indication of guilt in connection with excremental interests, the despised interests here being projected upon the adult in question. But further than that, with a group of children who are thus accustomed to what is called "freedom" over any length of time, the hostility and defiance connected with the expression of these interests becomes very marked indeed, so much so as only to bear the interpretation that the hostility is in part due to the fact that the adult in question is tolerant: that, in other words, the inner tensions of the child being what they are, the parent-figure is involved in this whether he will or no, and from the child's point of view, if he is not on the side of the angels, he is on the side of the devils.

This direct evidence might well have been anticipated by general psychological considerations, for it is clear that the human child is from the very beginning a social animal. Psycho-analysis has indeed shown that he is so at a far earlier age and in a far more significant way than external observations had revealed. We should at one time, for example, have viewed the suckling at the breast as being in the simplest possible relation with the mother, one that was hardly more than physical, that was "bodily" rather than "mental," and could not in any sense

he held social. A more careful observation of young infants, however, coupled with the evidence drawn from the intensive study of the intimate history of adults by the psycho-analytic technique, has given us reason to think that the child at the breast not only satisfies his hunger, but experiences the glow of mutual affection and gains the first dim awareness of his mother and of himself as in relation with her, that, indeed, the whole love and the whole self of the child are involved.

The child is from the first, then, in active contact with other minds ; persons and the social environment being, in fact, far more significant and effective elements in his early experience than things and the physical world from which he is largely shielded by social care. The far-reaching effect of this upon the mental processes of the human child has not only been studied by psycho-analysts and psychiatrists (for example, the influence of the oral phase of the development of the libido upon melancholia), but has also recently been noted in quite another way by Professor Piaget, when, in his studies of causality,\* he distinguishes a phase of development—his second stage of causality—which is probably entirely derived from moral and social factors, and is a further indication of the fact that the human child's relations are not in the first place directly with the physical world, but only secondarily so, through the medium of the social world. This is, of course, true in a greater or lesser degree, and for varying periods of immaturity, of all animals with a developed parental relation, particularly the mammals, but of none so extensively and significantly as of man. The difference between man and other animals in this respect is not only a function of his greater learning capacity and his longer childhood—to both of which ample justice has been done by psychologists. It is also due to a factor, the profundity and extent of whose influence has hardly yet begun to receive attention amongst general psychologists, namely, that man is the only animal with whom the so-called “Ædipus” situation is possible. This perhaps unfortunate and over-dramatic descriptive term covers a set of very complex psychological and social factors which, whatever name may be given to them, are of the utmost factual importance for genetic psychologists. There is to be considered, in the first place, the fact that the sexual life in the human adult is continuous, the seasonal periodicity characteristic of the sexual impulse in other animals having been almost entirely obscured, and that the parental and sexual life of the parents thus occur together, and not in alternate phases, as with, for example, the birds and the majority of mammals. It is thus possible for the children to be continuously aware of a continuous intimate relation between the parents out of which they are shut by an active and continuous barrier. Connected with this is the development of sexuality in the child himself, the extraordinary fact of the double period of optimum development (the first occurring in the years from three to seven), and the most complex tensions to which this gives rise between the child and his parents, and within the child himself. I do not feel it necessary here to do more than draw attention to the fact of infantile sexuality, for which there is now a body

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\*Paper on “La causalité chez l'enfant,” about to appear in *British Journal of Psychology*.



of evidence which is quite independent of the psycho-analytic study of adults, and has been gathered by direct observation of young children.\* My stress here is not upon the fact of the sexual crisis in the young child, but upon the complexity of emotional relation which this brings about between him and his parents, and the complexity of inner tensions which it leads to in himself. The inner relations of the libidinal and the egoistic group of instincts are the centre of interest for educators and for the purposes of this discussion. It is from these that the parent and the parent-figure derive their profound influence, and it is this highly complicated psychological picture of inner tensions and external relations that shows up the naiveté of the natural history point of view in so far as it assumes the simple unfolding of a series of instincts in the developmental history of the child.

The early analysis of young children, the technique for which has been developed in recent years by Klein† and others, has further served to underline both the profound significance of the fact of "guilt" in the mind of the young child, and the early age at which it appears.

In view of the psychological facts here adduced, it is clear that the concept of freedom in education is extremely naive and misleading. For now we see that we cannot be *neutrally* passive. The children, from the necessities of their own conflict, dramatize this passivity. Theirs is a dramatic world, and to them the adult who does not interfere is not a neutral observer, but a passive parent; and passivity in the parent means endorsement of the child's libidinal tendencies. It is not what we are to ourselves, but what the children make of us, that matters. Just as from the psychological point of view it is meaningless to discuss which are the more important—inherited tendencies or environmental influences—and of the utmost importance to arrive at an exact understanding of the form of interaction of these two sets of factors, so from the point of view of pedagogy it is meaningless to talk either of discipline or of freedom, but of the utmost importance to discover what is in detail the most fruitful form of interaction between educator and child. The educational problem is no more one of an utopian non-interference with the child, a belief that if we leave the child alone all will be for the best in this best of possible worlds, than it is one of pulling and pushing an inanimate puppet into our traditional standards. It becomes rather one of discovering a discriminative technique of interaction between adult and child which will enable the latter to enter most effectively into his heritage of human thought and human experience.

What is needed is, thus, an educational realism that sets aside equally the misleading, however alluring, image of freedom and the cramping bonds of uncritical tradition.

\*M. N. Searl: "A Child Study," *British Journal of Child Psychology*, Vol. IV, Pt. iii, 1924.

John B. Watson: "What the Nursery has to say about Instincts," pp. 1-36 in "Psychologies of 1925." (Clark University, 1927.)

In addition, I have a mass of unpublished observations of my own, which I hope soon to make available.

†M. Klein: "The Psychological Principles of Infant Analysis," *International Journal of Psycho-Analysis*, Vol. VIII, Pt. i, January, 1927.

Because children seek for compulsion, and insist on finding it in the parent-figure, it not only does not follow that we should at our own discretion give it—it follows definitely that we should not give it, except on the most carefully worked out objective grounds. Not less, but more adaptation is desirable, and this must be more closely modulated upon the child's needs.

Since the children start out from a dramatic world, we have to start there with them, but our function is to lead them out from that world into the real world. In other words, we have to use our parental powers in such a way as to lessen these. Our business as educators is to counteract the effect of these dramatic tensions in children by bringing in, wherever possible, the real world. The child seeks some compulsion, but this demand is limited in quantity, degree, and occasion. When it is given him he soon tires of it; he tires of it far more than he tires of our refusal to interfere. Here we can take our cue from him. It is not because we know better than the child the nature of his internal need, but because he knows better than we, that we cannot leave him free of us. And the way out from his world—from the world of imagos—is through the constant appeal, both for ourselves and for the child, to objective reality, to physical and social facts, and to interests and activities directed upon these. In the external world these dramatic tendencies of the child are deflected and diffused. He, no more than we, can ever become entirely free of the subjective world, of fluctuating values and of repetitive dramatic relations. Yet it is only in this direction that freedom lies.

This, then, appears to be the educational problem—that of devising a standardized technique of parental function which will throw the influence of the latter always on the side of the appeal to a larger real world. Such a technique must, of course, be based on the full psychological study of the child. It would be quite useless to try to force the child into premature development of impersonality and objective reference: this would be just as stupid and clumsy as the assumption that he cannot sustain these at all, but must be taught to do what he is told, because he is told. Guidance by objective standards, the special contribution of science to human values, which is to be the means of the child's psychological freedom, is, therefore, valuable only in so far as it can be made to grow out of the child himself. If, however, one approaches the young child freed from scholastic convention or doubtful psychological theory, and watches his response to the events and changes in the concrete world around him, it becomes clear that although these events and processes are for him set in a framework of personal drama, yet they have in them the roots of the kind of interest in the world which later on we should call scientific. We are now familiar in a general way with the fact that the most impersonal interests of the scientist have their sources in human desires and emotions; and to recognise the dramatizing tendency in the young child, therefore, does not need to startle us or to blind us to the fact that a genuine concern with things for their own sake may grow out of this. To a careful observer it is very clear that the quite young child has a delight in his experience, a pleasure in experiment and discovery, a passionate curiosity, that only too often are destroyed or lessened by education. Every young child



behaves so as to suggest that this scientific spirit has its roots deep in his native impulses. At two and three years of age the delight and wonder in the world, the strong impulse to "find out," the pleasure in discovery, are very marked. The child's desire to touch and handle, to pull to pieces, to "look inside," his freedom from the later conventions and inhibitions as to what is and what is not "nice"—are not these the source and conditions of interest in facts for their own sake and the spirit of experiment and observation? When, for example, the children with whom we work have "looked inside" a dead mouse or crab, there has been a powerful element of unmistakable interest in the facts themselves, even though the dead animal was perhaps talked of as a "baby" and used in a dramatic play of "mother" and "doctor."

The ordinary assumptions and methods of traditional education, so far from fostering an impersonal interest in the world, tend to check it and even destroy it. Here is one of the many points at which we have failed to make our theories consistent, and have left our assumptions clumsy and indiscriminating. Because the child's fantasy life is rich, because he looks out on the world from the centre of his personal relations, tends to personalize the world, to throw much of his experience into, for example, the dramatic form of father, mother, and child, we have tended to conclude that he must do this all the time, and have wanted to feed him almost solely on the stuff suited to harden and perpetuate these tendencies. We have talked about him at this stage of development as if he wanted nothing *but* fairies and fantasies, and have overlooked, as Dr. Montessori has rightly pointed out, his readiness for real experience. The child *has* curiosity, and can sustain a reference to real experience, if this follows the path of his native dramatic interests.

An example of the gratuitous confusing of the child's understanding of real processes by adult conventions as to the child's needs occurred with a highly-intelligent and gifted boy of six years of age, who combined the qualities of the scientist and the artist in himself in a most delightful way. One day he experimentally opened the case of a piano, and spent hours examining its structure and watching the action of the hammer on the wire, and the relation of the striking of the key to the movement of the hammer. At no point did he ask *why*, but made continual observations in the form of *how* and *what*. A day or two later he told me that his mother had said to him that "when the hammer struck the wire a little fairy that was in the wire came out and sang."

The impulse of curiosity in the child must indeed be of sturdy growth to persist against all the checks, and to live through the starvation, to which it is subjected by reason of the manners and morals, the laziness, and the traditions of the grown-ups. It would seem to be worth while to make the experiment of respecting this impulse wherever we find it in the young child, and removing these checks in order to test its vitality. We should at least in this way be able to throw some light on the individual history of the scientific spirit.

It cannot be too often repeated, however, that in order to discover this we must start where the child is. His immediate interests are in the concrete events of the world around him—events which are, of course, drawn into the circle of his emotional needs. The traditional subjects of the school bear no relation either to the child's inner dramatic world

or to the real world of physical and social fact. The child himself is concerned with the concrete events of the home, the structure and arrangement of the house, lighting and heating, cooking and cleaning, drains and water supply, with what he sees in the street and railway station, and with the cycle of life in animals and plants and the human family. As Dewey has long since shown, the child sees life as a whole. His intelligence is at work upon every part of his daily concrete experience, and this concrete experience is the medium through which his intelligence and his knowledge grow most abundantly. If we were not dominated on the one hand by such doubtful psychological theories as the theory of recapitulation, and on the other by mere scholastic tradition, we should be able to see this. Whenever I see a small boy showing the vast interest in trains and motors that the boy of to-day does show from the earliest age, as keen an interest as he shows in horses and dogs, I feel like saying to him, "Ah! you are upsetting the profound psychological theory of recapitulation!"

Dr. Montessori, of course, has had the courage not to be intimidated by this theory, but to accept the child as she finds him, to take him simply and naturally; nor has she been confused by maternal tendencies, which might insist on regarding the young child as a mere object for pity and protection. She has seen, in certain directions at least, that the young child *is* human, and ready to assimilate real human experience if it is graded for his needs and capacities. But, unfortunately, she has given her genius for devising technique to the narrow ends of the scholastic subjects. In the exercises for practical life her humanity broke through the conventions of the school; but, even so, more for the purposes of practical necessity than for the purpose of knowledge. These practical exercises seem to be, with her, the field of morals rather than the field of intelligence. To us the direct interests of the child in the concrete processes in the world around him seem far more significant in themselves, and as a medium of education, than knowledge of the traditional "subjects" of the schoolroom. In other words, we see no reason to let the school and its conventions stand between the child and real situations in the world.

Perhaps I may now very briefly indicate some of the directions in which we have been tentatively exploring these possibilities, and trying to devise a technique that would serve these purposes. One of the most important aspects of the method is the actual sharing of the children's explorations and experiments, their pleasure in discovery, and their delight in the facts of the world. We become, indeed, co-investigators of the world with them. Instead of "teaching" we bring the child and the world together by meeting with him the situations towards which his interest flows, and providing the material that will help him to solve his own problems. In other words, we arrange that his education shall be an education by fact, and by his own experience of the discovery of fact. We do not only meet and welcome his intellectual pleasure in the world, however. Equally important as a part of the method is the sharing of the children's fantasy life. We do not merely stand by and let them play, but, whenever invited, join in their digging and playing and painting, their games of engines and trains, of "mother and father," not taking the lead, but being content to follow theirs, and sharing their



enjoyment of these symbolic expressions. To keep outside the child's make-believe, and press only towards the adjustment to the real world, would be a mistake. I said at an earlier point that if one does not inhibit one necessarily endorses, and I would suggest that a certain amount of conscious endorsement in some directions is an important part of the technique. The actual sharing in the children's play, with the symbolic gratification of their unconscious wishes that this brings about, very gradually lessens the pressure of what Freud calls the "super-ego," and so brings greater adaptation to reality within the children's grasp. For both the child's happiness and his adaptability appear to depend upon a certain balance between the pressure of the libidinal tendencies and the "super-ego." Moreover, it is only by sharing the play activities of the children that one sees and can make use of the occasions when the interest in the real world starts up, and it is only by sharing in the make-believe that one can avoid any danger of forcing the child, of imposing the real world upon him. There is no need to do this. The normal and intelligent child finds his own rhythm between the inner and the outer world; and if one takes his play activities at his own value one sees how they open ways by which he passes over from the fantasy life to the real world; and one has but to go with him, and to help him further. As an example of this, I may describe the way in which our children gain their first experience of the balance and weighing. We have given them a see-saw, which can also be used as a weighing machine, having hooks and attachable weights underneath. Everyone knows how children delight in a see-saw. They use it in the ordinary way, and then, with the merest hint from us, they discover that they can substitute weights for a child at either end, and so find out "how much" each of them weighs. At first "how much" is crude—how many of the large and small weights it takes to balance a child. Presently they find that the weights are accurately graded, this one being so many times that, and so on. They then discover that the weights can be attached at different distances from the fulcrum, just as the child who is being weighed can sit on the see-saw at different distances from the fulcrum, and they work out for themselves the relation between these different positions. They are thus gaining experience not only of weights and measures, but also of mechanics. From this, the older children go on to the use of the household scales and the scientific balance, with a clear understanding of what they are about, based upon their immediate bodily experience.

Another important aspect of the method which has been followed is the attempt to avoid the clouding of the child's understanding of real processes by a confusion of moral and causal categories. This most common type of confusion is illustrated by the instance of the child who replied when an adult said to him, "You must always put a 'd' in 'grand'"—"Why, what would happen if you didn't?"

The confusion springs in part from language. There is, for example, the use of the word "must" both as an expression of will and as an expression of invariable sequence, not to mention its use in the sense of probability of inference, "It must be so." These language confusions are, of course, only a reflection of deeper ones. They indicate primitive types of causal thinking, including Professor Piaget's second stage, but go

back ultimately to what Ferenczi\* has called "omnipotence of thought," involving the identification of internal and external change. On the view that the pedagogical problem was to give the child every possible help in passing out of these primitive stages, we have avoided the use of the imperative form, and have preferred the conditional, both for changes in the physical world and in the social. When A happens, B follows. If you do X, Y would be the result. "Must," then, falls into its place as representing a physical condition. If you wish to attain a certain end A, then it is necessary to provide certain conditions B. If you wish the string of your sailing boat to hold fast, then it is necessary to tie it, or, you "must" tie it in one of a certain number of ways. By the use of this form of language it is rendered easier for the child to realize that this is a matter of physical fact, and not of the will or the whim of the adult. "Must" was never used with any other meaning. On the other hand, we wanted equally to discover what could be done in the way of assisting children to apprehend social realities as distinct from the world of imagos, and with this in view we made even the necessary social sanctions always specific, for example, never using general categories such as "naughty," or "good," or "horrid," but saying, for example, "If you hit John with the spade, I shall take it away." "I shall not let you do that." "Will you please do this?" In other words, we wanted to help the children to realize and adjust to other people's wills as facts and not as absolute values. And when occasion offered, we joined with the children in the same type of comment upon each other's behaviour.

In the same way, we have tried to avoid any possible inhibition of intellectual processes, for example, curiosity and experiment, by premature social considerations and conventional moral standards, such as "tidiness," "cleanliness," etc. These virtues we do consider useful, of course, but we do not value them more highly than enterprise and initiative. Whenever the children did something that most people would unreflectingly consider rude, or shocking, or untidy, they were, as long as possible, given the benefit of the doubt as to whether this was merely an experimental action or a hostile action. When, for example, a child of three took up a wooden vessel containing beans and flung them out on to the floor we did not treat this as a case of defiance, or as a subject for a sermon about tidiness, but left him, if he wished, to watch the way the beans rolled, to run them through his fingers, and so on, with a view to fostering the intellectual element in the whole, demanding only that he should pick them up and put them away when he had finished. If on any occasion events showed an action to be clearly one of pure defiance, it would be differently considered, but whenever possible the child was given the benefit of the doubt.

On every possible occasion the method of conditioning the children's impulses was to use the natural outcome of their action, letting the children, for example, up to a point discover for themselves what it feels like to be hit and to hit, what it feels like to have one's own beautiful tower that one has built knocked down by someone careless or angry, as well as to knock someone else's down. In other words, any interference on

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\*S. Ferenczi: "Contributions to Psychoanalysis" (Pp. 181-203, "Stages in the Development of the Sense of Reality").



our part was intended to come at such a point and to be of such a nature as not to anticipate experience but rather to integrate it ; this, of course, within the necessary limits of real injury.

So with regard to such matters as responsibility for cleanliness and tidiness, the technique has been one of permitting a specific penalty. For example, each child washes up his own dinner crockery ; if he does not do it, it is left dirty. This has worked with surprising effectiveness. There have been one or two children who left a cup with milk in it, sometimes for two or three days until it had become very disagreeable. We refused to give them milk in the dirty cup, and in the case of those children who were sufficiently obstinate to let the matter go two or three days, the loss of the milk, coupled with the disgust for the smell of the dirty cup, was entirely effective in getting them to observe the rule.

Throughout the whole of the technique with regard to the social education of the children it has been desired, in so far as environmental facts affect it at all, to minimize guilt, to objectify social necessities, and to stimulate the maximum of intelligent observation and judgment on the part of the children.

A very important element in our technique is the avoidance of verbal instruction, since verbal instruction is the shorthand of experience, and is either empty or confusing until the child has had enough immediate experience to give the words a sufficiently precise content.

For these reasons we do not supply ready-made answers and verbal explanations to any questions of the child, but whenever possible throw the question back to him. We respond to the child's questioning by "What do *you* think?" "How does it seem to you?" "Shall we try?" "Let's find out." We have, of course, no reluctance to admitting that "we don't know." And if the child asks a question, the answer to which, although known to us, would be to the child himself merely verbal, because he has not had the experience to give it concrete meaning, we reply, "I do not know how to tell you." Wherever there is a difference of opinion between ourselves and the child, or where the child's own dogmatism or assertiveness leads him to error of fact or judgment, we say, "Perhaps so, and perhaps not," or "It seems so-and-so to me, but let's go and see." "Shall we measure?" "Will you try?" Sometimes merely to say "Is it?" in a tone of simple enquiry proves sufficient to turn the child back to the fact again. At every point our suggestion is one of reference to the verifiable facts and not one to our own authority. We consider an incomplete logical process or observation that is entirely the child's own to be more valuable as a medium of education than a just belief and verified opinion which we have given him and which he accepts by virtue of our prestige. The imperfect inference and incomplete observation can be revised and completed, and we can give sufficient stimulus to this in our tone or form of response to his statement. And when the child says, " "*Why* is such and such a thing?" " we reply, "We don't know why," but share in his observation of *what* happens and *how*, and together with him make a concrete verbal summary of what has happened.

We thus mainly use speech so as to provoke the child's active exploration of the world and to make clear and precise its results. We avoid verbal explanation as far as possible, because this involves two distorting

media between the child and the objective world, his emotional relation with the person who gives the verbal explanation, and the words themselves. The emotional relation cannot be avoided, it is part of the stuff of the child's world and of ours. We can, however, use it as a means of developing the child's own active exploration of the world rather than his acquiescence in our dogmas about the world. As for the words used in explanation, they may have and often do have totally different referents in the mind of the child hearing them from what they have in the mind of the adult speaking them. A recent illustration of this was given to us by a parent (Mr. A. G. Hughes) who had been interesting his child of two years and nine months in the germination of beans. Had they spoken of "planting beans" and the "beans coming up." On his parent's query, "Are they up yet?" he said, "No," and continued to say this after the shoots of the plant were quite plainly visible. When his parents drew his attention to these, he said, "Those not beans, those leaves." A year later his parents asked, "Are you going to plant some beans this year?" He replied, "No, I planted some last year and they came up green leaves." This is a clear example of how great a difference there can be between the content of a word in the mind of the speaking adult and the listening child, and of how unjustified may be our cheerful assumption that the child understands what the referent of our word is. Another example was given to us when we discovered that our children were using the term "triangle," which had been applied to the triangular wooden inset in the Montessori apparatus, to refer not to the outline but to the concrete whole of the piece of wood with the knob in the middle; for when an adult applied the term to a form drawn on a blackboard, the children said, "That is not a triangle, it hasn't got a knob."\*

For these and other similar reasons we avoid verbal explanation. In general, we are taking the platitude that the child's own doing and concrete experience are the medium of his learning at such a level of seriousness that it ceases to be a platitude. Educational theory has long been familiar with the heuristic method. What is new at the Malting House School is that instead of confining this method to what are formally called "scientific" lessons, we apply it over the whole field of the child's interests throughout his day, and that we do so from the earliest age. Indeed, it is in the earliest years that we feel it to be of vital importance, and as the child grows older the place of instruction becomes greater. It seems clear that if instruction can be used at all with the quite young child it is mainly in the form of other people's doing, not in the form of description. When he has discovered things for himself about the world, when he has, moreover, discovered discovery itself, then he is ripe to be taught, and presently to be taught verbally. We find in our own children at the later stages when they come up against problems which they cannot, from the nature of the case, solve entirely themselves (as, for example, when a five-year-old child asks whether you can "go all the way to China by ship"), that they are eager and ready for instruction and for the help of the adult, and can assimilate

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\*Montessori, of course, provides a correction for this in the outline cards; it is quoted here merely as an instance of verbal confusion.



what is then given through language, in a way that the child who has been brought up on verbal explanation is not so commonly able to do. They are, moreover, themselves able to give an account in words of a sequence of events or a series of facts with much greater precision and clarity than the child who has been fed on words, and who has not at every possible point been allowed to "find out." Throughout, they have ample opportunity of expressing their experiences in words, and they do this with great delight, often repeating an account of things over and over again in a dramatic way. An interesting example of the clarity of understanding and of expression which this method brings about occurred during the recent visit of Professor Piaget to the school. The researches of Professor Piaget into the development of causality in the mind of the child happen to be very closely relevant to the work of the school, for the possibility of devising such an educational technique as will enable the child to become free of magical and other pseudo-causality is one of the most important of the problems with which we have been concerned. Professor Piaget had been remarking on the fact that the appreciation of mechanical causality does not normally occur until eight or nine years of age, and that with regard, for example, to bicycles, children of less than that age have rarely any understanding of the function of the pedals. In drawing the bicycle, for example, they will put them in, but not show any connection of the pedals with the machine. He asked how our children stood in this respect. At that moment one of our boys of  $5\frac{3}{4}$  years of age was sitting on a tricycle back-peddalling. I went to him and said, "The tricycle is not moving forward, is it?" and he replied, "Of course not—when I am back-peddalling." I asked, "How does it go forward when it does?" "Oh, well," he said, "your feet press the pedals, that turns the cranks round, and the cranks turn round that (pointing to the cog-wheel), and that makes the chain go round, and the chains turns the hub round, and then the wheels go round, and there you are!"

The traditional subjects of the curriculum thus fall into their proper place as the mere instruments of communication and record, and the child has, through his experience of real situations, ample motive for the mastery of those tools. If we foist them upon children at an age when they have no internal motive for mastering them, we have, of course, to give our attention to the minute perfection of the technique for learning and teaching them. It would, however, be more fruitful to turn our patience and our ingenuity to the profounder problem of arranging the child's environment so that his fundamental and direct interest in the real world is fostered, and the precious impulses of experiment and discovery are sustained.

I may perhaps describe briefly one direction in which we take seriously the child's native interests. Any careful observer of young children is able to note the native interest in physiological processes, such as, for example, eating and drinking, excretion, the wounding and healing of the skin. The usual method of dealing with these is purely negative. Yet here is provided, in fact, a starting point for discovery and thought and judgment, leading to a wide range of important facts which will again stimulate further interest and experiment. Through the care of living animals, their feeding and cleaning, the child's interest passes

easily and naturally to both physiological and anatomical facts. When, for example, through accident or neglect, or any cause, one of the cherished animals dies, the children say, simply and naturally, "Let's look inside and see what it died of." We had, for instance, a petted rabbit that was ill and died. The children then remembered with regret that they had on one or two occasions forgotten to feed it, and they said, "Perhaps it died because it was hungry," but when they "looked inside" they found the stomach full of undigested green food, and concluded that starvation was not the cause of death. From the experience, amongst others, of falling and bumping themselves, an interest in the structure of the human body arose, particularly in the bones. They felt each other's bones, and at a certain stage we provided a human skeleton, in which they evinced the liveliest and most constructive interest, experimentally fitting it together, and comparing it with the living body. This came in the order of their experience before the dissection of the rabbit, and, when in the course of the latter, they cut clear some of the bones, they spontaneously made comparisons between the rabbit's bones and those of the human being, saying, "Let's find the human bones and look at them." For the moment these could not be found owing to domestic changes in the arrangement of the rooms during the vacation, and we had a whole group of children (from five to ten years of age) shouting eagerly, "Oh, we must find the bones; we *must* find the bones!" and persisting in their efforts until they did find them, and then comparing the shape and size and number, etc., with those that they could get clear in the dissection of the rabbit. This "looking inside" animals by our children has seemed to us to throw a most significant light both on the content and the technique of education. Here is a great field of native interest in the unspoilt child which opens out whole worlds of experience for him, in which his mind moves easily and naturally, and which adult prejudices have kept entirely closed to him. Schools have tried to teach what is called "nature study," and this has often reduced itself to the most formal study of plants alone, in which the child's interest is undoubtedly much less keen and sustained than in animals. There is, I think, no other explanation of the behaviour of adults in this respect than that of the repression of their own direct sexual interests and of their own impulses of cruelty, and the re-awakening of their own early shame and anxiety and memories of reproof on the same scores. We have found, however, with our own children that as their experience of "looking inside" dead animals developed, they have grown far more humane in their treatment of *living* animals, and have taken a far more objective interest in them; that is, these have become much less objects of impulse and far more objects of interest for their own sake.

Any young child may at some time or other cut a worm into pieces. If we merely make a strong protest against this cruelty we are likely to produce one of two effects; either the child may adopt our standard superficially, but go on killing worms whenever he has a chance of doing so behind our backs, or he may take our prohibition too widely and withdraw his interest altogether from physiological facts.

If, however, we refrain from too sudden a protest or shocked comment on such occasions, whilst on the other hand we meet the child's interest in living animals, their actions and movements, the processes of birth,



growth, and death, with an equal and co-operative interest on our part, and if occasion is taken to "look inside" an animal that dies, the destructive impulse seems to come gradually under the sway of curiosity. Our children have "looked inside" different types of animals (worm, crab, frog, mouse, rabbit), and so discovered, for example, that there are animals which have no backbone and others that have no bones at all. Our purpose here is to enchain the destructive impulses in the service of the intellect and of skill, and, while fostering the humane treatment of living creatures, to conserve at the same time the courage to face the basic facts of life and death. It may perhaps be that this is not greatly influenced by education, but is a matter of deeper changes in the unconscious mind, but it is worth while trying out this method of education as against the usual methods of mere prohibition of the destructive tendency and neglect of the curiosity drive that is so intimately bound up with it. Our own experience is, however, that the technique here suggested is amply fruitful from the point of view both of humanity and of science.

I have dealt with the educator in his developing psychological relation with the child, and given some illustrations of a possible technique of progressive interaction between educator and child. Let me now summarize in the simplest terms the function of the school as I see it. The school is, I would suggest, the place from which the child can look out on to the facts of the physical and human world in a way that makes possible his understanding and mastery of them. The teacher and the teaching are not to be a screen to shut out the world from the child. They are not there to say to him: "This you must learn, that you shall not know." On this view, ranges of fact which have been hitherto kept carefully away from the child's understanding will be laid open to him if and when he reaches out to them; for example, those about the human body. From the beginning as wide a range of real facts as possible should be brought within the child's experience. But the school should aim at doing this in an order fixed by the needs of the child's growth, and by his power of assimilation, as a process of step-by-step psychological adjustment. So inspired, the school will mean on the one hand greater "freedom" for the child, but on the other a greater discipline—a discipline not by the conventional commands of the schoolmaster, nor by the conventional prejudices of the local social medium, but by the real world itself and by his growing understanding of it.

Then, in conclusion, it may be suggested that the standardization of the parental function on the lines here described is a *sine qua non* not only of a scientific pedagogy, but also of a genetic psychology. Only by using such a conscious and discriminative technique of interaction between the parent or parent-figure and the child can we discover what the child is and can achieve.

## The Education of the Adolescent.

Report of the Consultative Committee, Board of Education, 1926. (H.M. Stationery Office. Pp. xxiv+339. 2s. net, Paper; 3s. net, Cloth.)

"THE EDUCATION OF THE ADOLESCENT" is the title of the recently-issued Report of the Consultative Committee of the Board of Education. The Report, however, deals only with a part of the education of the adolescent. The man in the street who buys a copy of it, if he does buy such things, under the impression that he will find in it an account of the education of the later years of adolescence, or of the adolescent who contemplates a professional career, or, indeed, of adolescents who are in existing secondary schools, might reasonably complain that he has not been fairly treated and demand his money back, for this Report does not deal with such matters.

The selection of a title which is more comprehensive than the subject matter of the Report has this advantage, that it calls attention to the fact that the terms of reference\* governing the work of the Committee were far too limited in their scope. To split up the education of the adolescent into sections and then to attempt to deal with one section without reference to the others is not sound. Indeed, as the Report shows, the Committee were unable to conform strictly to the terms of reference, and, notwithstanding their disavowal of any desire "to explore the form of environment which goes by the name of the secondary school," the extent of their non-conformity is the measure of their success.

The main constructive proposals which are embodied in certain conclusions and recommendations can be summarized briefly. In the first place the Committee define an age, or, more strictly speaking, a mental age, that of eleven, at which primary education may be said to end and secondary begin. All formal school education beyond this age they designate as secondary. They then proceed to indicate how secondary education may take various forms, the difference in general depending on the length of the course and the probable future occupation of the pupil, and, to differentiate these varying forms, they employ a new nomenclature. Finally they put forward a course of study for the class of pupils indicated in the terms of reference. These proposals raise certain administrative difficulties and a number of minor problems. These are considered in the Report. As briefly outlined, the scheme, no doubt, will meet with general approval in educational circles, and the Report, it is to be hoped, will not be consigned to the limbo of forgotten things, the fate of so many of its fellows. On the other hand, when the details of the scheme are examined they will be found to raise several points of a controversial nature. This indeed is a merit. The Committee have not shirked the issues raised, and, although many educationists will disagree with one or other of their conclusions and regret some lack of breadth and perspective and the occasional condescension to distinctions which can only lead to disharmony in the future, few will refuse to acknowledge the good service of the

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\*To consider and report upon the organization, objective, and curriculum of courses of study suitable for children who will remain in full-time attendance at schools, other than secondary schools, up to the age of 15, regard being had . . . to the probable occupations of the pupils in commerce, industry, agriculture, etc.



Committee. In the two and a half years over which their deliberations have extended they have examined 95 witnesses and received over 300 memoranda, statistics, or other data from various organizations or interested persons, and produced a Report of 183 pp., embodying 38 conclusions and recommendations. In addition there are some 60 pp. of suggestions regarding the teaching of certain subjects and five appendices occupying 75 pp. The Report is a mine of information on the education of the child in early adolescence, and the matter, though perhaps unduly repetitious, is on the whole admirably set forth.

As already indicated, the Committee recommend that primary education should be regarded as ending at about the age of eleven, and that school education beyond this age should be regarded as secondary. Under this scheme all school education, other than technical, falls into the two categories of primary and secondary. For purposes of organization this "clean cut" is convenient and useful, just as the division of school into forms or classes or departments is convenient and useful. But it should not be forgotten that it is an arbitrary division, a device in educational organization. On purely educational grounds 10+ or 12+ could be urged with equal cogency, possibly even greater in the case of one of them. There is nothing sacrosanct about the age of 11+. Provided this is understood, we find no cause to disagree with the findings of the Committee on this point.

Difference of opinion, however, is inevitable when the "clean cut" means, in addition to a new stage in the education process, the bodily transference of the pupil at 11+ to another school. The argument put forward by the Committee is that such removal would "mark as clearly as possible the fact that at the age of 11 children are beginning a fresh phase in their education, which is different from the primary or preparatory phase, with methods, standards, objectives, and traditions of its own." But, it may be urged, the entering upon such a new phase could be marked equally well in a different department of the same school and is, in fact, being done at the present time, for instance, in the bulk of the higher schools in Scotland as well as in many secondary schools in England. It is unfortunate that the Committee in its multitude of witnesses did not include one or two from Scottish schools who could have given some interesting evidence on this point. They would then have learnt that the reason for this practice is not simply "that children become deeply attached to the elementary school which they have attended, and teachers are reluctant to lose them," but that in addition the easy intercourse between the primary and secondary departments is reciprocally beneficial as well for the pupils in the two departments as for the members of the staff. While the Committee reports evidence to the effect "that more than half of the schools (in Scotland) which now rank as secondary have developed since 1900 out of primary schools," it is not made clear that the great bulk of these schools, especially in the provinces, still retain their primary departments. It is devoutly to be hoped that such a development, side by side with the existing secondary school system, will not be prevented or hindered in this country. In not a few cases it will be found to be the best way to encourage secondary education.

The next point on which criticism may be directed is the new nomenclature of schools. Four classes of secondary schools are defined :

Grammar, Modern (selective), Modern (non-selective), Senior Classes. In themselves the names have no distinguishing significance, they convey *per se* no real differentiation. Grammar is taught in all of them ; each will teach modern subjects ; and there will be senior classes in all. The question arises, however, as to whether these new names will serve any possible useful purpose or whether they will not tend to hamper the proper development of secondary education. One has the feeling here that the Committee has wandered into detail and lost perspective. The broad fact is that a full secondary education normally falls into two parts : the first comprising an education which in the main is of a general character and finishes at or about the age of 16 ; the second an education which allows for a certain amount of specialization and finishes at the age of 18 or so. Hence schools which give secondary education would appear to fall into two broad categories : those which provide the first part only, or some portion of it ; and those which provide both parts. If the Report had suggested names for these two categories only they would have avoided the complications and controversial difficulties which are bound to crop up under the proposed nomenclature. In this dual grouping variable courses of study, whether they end at 14, 15, 16, or 18, could readily find place. The proposed nomenclature is misleading and illogical.

On the other hand the Committee is on firm ground in recommending that provision be made for different forms of secondary education in its first stage, varying in some degree according to individual abilities and tastes and probable future occupations. As a general principle the provision for such variations will meet with approval ; whether the particular suggestions in the Report will meet with the same approval is open to doubt. The curriculum recommended for the " Modern " school planned to finish at 15+, and, drawn up under the assumption that the probable career of the boy will be in industry, commerce, or agriculture, has two cardinal defects : it assumes that the future career of a pupil is determined at the age of 11+, whereas the determination in a great many cases cannot possibly be made until later ; and it emphasizes the age of 15+ as the *terminus ad quem*, rather than the *terminus a quo* of education, and, perhaps its worst feature, it offers no inducement to the pupil to continue at school. The Committee are aware of the first defect, and seek to obviate it by suggesting a bridge between the " Modern " school and the " Grammar " school. " It is of the highest importance," they say, " that provision should be made for easy transfer " from one to the other, but anyone who has had the experience of transfer from one school to another knows that it is only under exceptional circumstances that such transfer can be made easy. Under their scheme the defect is practically irremediable ; the real solution is to provide greater facilities in the " Modern " school itself. While this may not be possible in every case, it should be possible in more cases than is apparently contemplated in the Report.

The second defect illustrates the undesirability of limiting the terms of reference to the age of 15. Obviously a wider survey would have indicated in more detail than was possible by the Committee, unless they were to exceed their terms of reference, the nature and form of education to which the course in the " Modern " school would be merely



an introductory or preliminary stage. The real point is that 15+ should not be looked upon as the end of education, and every encouragement should be given to the pupils to continue their education after 15+ either in the school itself or in some other institution. This the Report fails to emphasize in proper fashion. Equally, or with greater force, do these criticisms apply to those schools where 14+ is looked upon as the upper age limit of their pupils.

Every word in the Report regarding "practical work" and "bias" deserves to be carefully read. The Committee definitely disclaim any intention of advocating the introduction of vocational education in the schools. There is no suggestion that the general education of pupils up to 15+ should be "sacrificed to a bias in any direction, however well adapted to local conditions such a bias may in itself be." This is thoroughly sound. There is a great gulf between purely vocational teaching and the giving of a "practical turn" to education. It is refreshing to read that in the opinion of the Committee "the treatment of subjects such as history, geography, elementary mathematics, and a modern language, should be "practical" in the broadest sense, and directly and obviously brought into relation with the facts of every day experience. The practical applications of subjects such as elementary mathematics and drawing, as adjuncts and instruments of thought in the study of other subjects, e.g., handicrafts, geography, elementary physics and biology, might with advantage be emphasized." But why should this great good be confined to pupils who finish their education at the age of 14 or 15? Why not extend it to other secondary pupils? The Committee really must have their terms of reference widened!

The incursion of the Report into the area of administration cannot pass without comment. The proposal that school education be divided into the two spheres of primary and secondary raises certain administrative difficulties in respect of Local Authorities for elementary education only. These are considered in the Report in a thoroughly statesmanlike way, and various suggestions are made. The recommendations are progressive with the suggestion that in the sequel consideration might be given to the question of introducing legislation "creating new provincial authorities in which the Authorities for elementary education only and the Authorities for higher education were merged together." This is a proposal which can be based on sound educational grounds and which will in course of time inevitably pass into legislation. The same may be said about the proposal to lengthen school life to the age of 15.

The Report, notwithstanding the criticisms which can and will be directed against certain of its recommendations and suggestions, is worthy of the careful consideration of every one interested in education during early adolescence. In estimating its value one should keep in mind the definite wording of the terms of reference and the limitation imposed by them on the Committee. For these limitations are the measure of the handicap under which the Committee began their deliberations. All the more reason is there for congratulating them and their Chairman, Sir Henry Hadow, upon the excellent service they have done for education, one which could have been greater had their initial handicap been less.

JOHN STRONG.

## The Nation's Schools : their Task and their Importance.

By H. Bompas Smith, M.A., M.Ed. (Longman's, 1927. Pp. viii+308. 6s.)

IT is a right and proper thing that Professors of Education should not confine themselves to administering the training departments under their charge and to guiding the students who come to them, but, having taken time to think and read, should give the results of their meditations and the fruits of their experience to the world. It is more important that the books they write should be addressed, not only to persons interested in the theory of education in a professional sense, but to the plain citizen who has children to educate and who is concerned with the right education of all the young people in the community to which he belongs. Most of the books published by Professors of Education in the last ten or fifteen years have been written for the public, or, if not universally with the public in immediate view, written in such a way that they can be easily read by any person of intelligence. Professor Bompas Smith's book is to be warmly welcomed on this ground especially. The theme of the book is the importance of the schools to the nation and of the nation to the schools, and it is meant for all members of the nation to read.

Like other books written by his fellow professors in recent years, this book is a confession of faith. It is no cold intellectual survey of the problem of the nation and its schools, composed in the seclusion and detachment of a spectator aloof. It is warm with personal feeling and here and there personal preferences, which do not amount to prejudices, reveal themselves; these and the obvious results of the personal experience of the writer give the book an intimate touch and make it the more readable.

Professor Bompas Smith's key words are "valuable lives." "As a nation we desire the schools to help our boys and girls to live more valuable lives by achieving their right interests, and therefore growing in harmony and strength. The schools, therefore, must be guided by an ideal of right living which involves the powers of freedom, unity, and faith. In so far as they fulfil this purpose in appropriate concrete forms they will do their share in raising the whole level of the nation's life." This text is developed in a series of chapters in which "concrete" problems in plenty are fully discussed and which end in eloquent pages on the nation's interest in wealth, democracy, science, beauty, right living, religion—a very thorough argument kept on a high plane throughout.

The author makes assumptions, but with his eyes open. Quite justifiably for the purpose in view, he takes an educational system in a modern nation for granted; he is not discussing education in general, but education in the schools we have, and under the system which is ours. In this connection he has wise words on the relation of the nation to the schools in the chapter on "The National Background to Education," and equally wise words on the "legitimate means" which the



State can use to influence the schools. He assumes without argument, as he is entitled to do, that our national evils, and especially our want of unity, can be and should be cured in part by proper direction in the schools ; and this preoccupation with the moral purpose of the schools lends a distinctive colour to his pleadings.

Professor Bompas Smith is on less sure ground when he tries to examine the "vocational" end of the schools, though "vocational" is used in no narrow sense. He conceives of society as divisible into three groups, each with its peculiar culture : the craftsmen ; the "middle class," as he calls them, but who are perhaps better described as the "distributors" ; and the leaders—clergymen and teachers, as well as heads of industrial enterprises and of the national and local public service. Though the groups are not divided as horizontal strata of society, but are meant to be longitudinal, the classification is not happy. The schools are somehow to encourage the peculiar culture of the group into which their pupils are to enter ; but how and why the culture in school of a future shopkeeper should differ from that of his brother, the future carpenter, or from that of his sister, the future teacher, is not clear. "Culture" is Professor Bompas Smith's own word, and he does not mean technical preparation. For my part I do not understand the practical use of this doubtful grouping, nor does it seem to conduct the reader to any visible or useful corollaries in the book. For the conception of education, in its widest as in its narrower senses, as shown in the author's subsequent discussion of the task of the schools, is liberal enough, and is limited by no restrictive theories of classes of society, whether vertical or horizontal.

When he is dealing with the necessity of freedom Professor Bompas Smith takes the opportunity of protesting against some of the restrictions which he considers still hamper the work of the schools. He puts in a strong plea for the recognition of private schools as an integral part of our English system ; in all respects, save eligibility for grants, he thinks they should be put on a footing of equality with state-aided schools. With the proposition in its general form one may agree. But he goes further than he is really warranted in suggesting that the Board of Education has a deliberate policy in favour of state-aided schools, or at any rate a preference which dictates action unfavourable to other types. The Board, having to distribute moneys voted by Parliament, is bound by certain principles of administration from which, however benevolent it may be, it cannot escape. Professor Bompas Smith hardly realizes the position of the Board in this as in other matters. He thinks, for example, that the Board might relax still further its control through inspection, by confining itself to the activities of disseminating information and keeping in touch with schools, and by ceasing to criticize and to offer advice. The teachers are to be left free from interference ; they, and not either Central or Local Authorities, are the leaders and guides, and they should be the sole critics of the teaching in the country. Here also the author loses sight of the position of the Board as guardian of the children of the nation. The time may be rapidly approaching, if it is not here now, when public opinion upon education is well-informed enough and strong enough, as well as vigilant enough, to check inefficiency and slackness on the one hand and eccentricity and extravagance on

the other. But in the sphere of elementary education, at least, for the long years during which the Central Authority has had to deal with it, the Board has had to watch over the welfare of children whose parents and guardians were in fact inarticulate and powerless, and in some degree to protect them from bad treatment from incapable managers and inefficient teachers. It might have been to the advantage of the middle classes if the Central Authority had exercised the same superintendence over secondary schools half a century before these began to be inspected. Since his book was actually written, however, Professor Bompas Smith now knows that his main point, a protest against the niggling rules and regulations from which even a system generally well disposed is rarely free, has been to a large extent met by the 1926 regulations of the Board. In these a number of prescriptions, some of which are survivals from a state of things long past, have entirely disappeared, and the Board will limit itself to "approving" in very many directions where they formerly laid down requirements. With control from local authorities, Professor Bompas Smith must make his own account. On freedom in general within the school, he is very sound. These criticisms do not of course impugn or, indeed, hardly affect his main argument.

Besides a general and cordial commendation of the main contents of this book, the practical advice as well as the idealism, I should like to single out one or two special features for praise. He is naturally thinking for the most part of the public schools with which he is familiar; but steadfastly all through he insists that what he has to say in criticism and, above all, in suggestion and advice applies with equal force, though naturally with modifications according to type, to all kinds of schools, secondary, technical, and elementary. This is a true exemplification of the "unity" which he holds up as one of the ideals.

In the eleventh chapter he discusses the possibility of a "science of education." This chapter deserves the attention, as it will meet with the approval of all who are interested in education as something more than mere instruction. It should be pondered over by the lofty philosophers who in the seclusion of their own subjects are apt to deny that "education" is even a subject apart. It appears to me to be a very clear and a profound review of a question on which much confusion exists. Perhaps the professor can be induced to develop his theme at greater length.

Lastly, though formal bibliographies usually accompany books of this kind, I am not sure that the practice of this book, of noting the source of the quotations at the foot of the page, is not more effective. The quotations themselves are admirable; they come in aptly, and their undoubted weight is brought to bear at the right place. They suggest, to one reader at least, some further reading which promises to be of the greatest interest.

H. WARD.



## Bilingualism.

By Michael West, I.E.S., Principal of Teachers' Training College, Dacca ; Hon. Reader in Education, Dacca University, Calcutta. (Government of India Central Publication Branch, 1926. Pp. 354+xiii. Price Rs. 2-4, or 4s.)

THIS book is a noteworthy addition to the literature of the bilingual problem, although its chief interest lies not in its contribution to the general problem of bilingualism but in its very able handling of the immediate problem which Mr. West singles out for treatment in the schools of Bengal: namely, the acquirement by *all* boys of a reading knowledge of English in the short time available to them.

Emphasizing the essential differences between reading and speaking the second language, between its receptive and expressional aspects, and arguing that reading ability and speech ability may have little in common, Mr. West boldly simplifies his problem and endeavours to discover an efficient and easy method of bestowing on his pupils the power of "skimming" books in the second language, much as a practised reader does with books of his own tongue. It is the average boy he has chiefly in mind, the boy "never likely to go outside his province, never likely to converse with any non-Bengali," to whom, therefore, the speaking and writing of English matter little, but who needs a knowledge of English books to supply the deficiencies of his own literature. His vernacular is sufficient as the vehicle of the national life, "the dear and intimate things" which have coloured his childhood and shaped his emotions, but it is insufficient for a complete education. This incompleteness is to be got rid of by opening to him the ideas and knowledge which English books can give, and the educational problem is, primarily, to bestow as quickly as possible a reading ability which shall be efficient and permanent.

Mr. West does not forget that ability to speak and write English still remains a need for some boys, but he is not concerned with this problem at the moment; the schools can go on doing for them what they have already done. But as he holds that the schools have never singled out this separate reading ability, and have taught English as a general "culture subject" very much on the same lines as English in our own schools, he has tested very carefully the methods he advocates, and his experiments show some striking results.

Thus, a short practice period of 16 days produced a gain equal to four years' ordinary progress in the English reading of Bengali Intermediate students, a proof that the school, in over-emphasizing expression and ignoring the specific problem of the art of reading, had adopted a wrong attitude towards the study of the second language.

The chief difficulty for a pioneer in such work lies in the restricted vocabulary of the second language. The Bengali's English vocabulary at the matriculation grade was found to correspond to that of an English boy of the age of  $9\frac{1}{2}$ , i.e., the Bengali matriculant would be able to read only those books which appeal in respect of vocabulary to English boys of nine or ten years of age. Hence reading matter must be prepared, restricted in vocabulary but suitable in range of ideas, for the foreign

boy, and this Mr. West has done. By means of such readers with a graded and controlled vocabulary a Class II in one of the weakest Middle Schools was found after 16 weeks to achieve results equal to those of Class III in one of the best schools, and after five more days of revision and special practice in reading the results were midway between those of Classes IV and V. This is a gain of two and a half years from 17 weeks' work. With a better school the same gain was obtained after ten weeks' practice.

Mr. West claims, therefore, that it is possible to give such reading ability in English as constitutes a permanent possession within one year to about 40 per cent., and within two years to 80 per cent. of average Bengali boys. Of the remainder, 16 per cent. are so much below normal that they have difficulty in acquiring reading power in their own language, and are probably permanently hopeless in face of a second language.

These results are of enormous importance to all language teachers, for, although many would disagree with Mr. West's complete divorce of reading ability and speech, the claim that efficient reading power can be bestowed so quickly is a challenge to them. It may be that we cannot assert so easily that the vast majority of English boys only need a reading ability in the second language they study, but it is obviously the case of many of them, and we may ask, in the light of these results, whether we have not spent too much time in our language classes on the expressional side. It is a question for discussion and experiment, for Mr. West's work has hardly solved it. Suppose, for instance, we enabled our pupils to acquire this reading ability, and left speaking and writing to the second stage, what would be the result? On the question of pronunciation Mr. West will not satisfy his English critics: "The Bengali boy will be one among many in Bengal, and he must speak English as it is spoken in Bengal. America, Australia, Canada have their own versions of the English language." But more important is the intellectual result: if reading ability is acquired so easily and so quickly how far is it an intellectual weapon and how far will it remain a permanent possession? Mr. West makes a significant admission at the close of his book which is worth quoting in full: "In the reading of a foreign language (possibly where the active power over the language is less than the receptive, or possibly in all cases) the ideas gathered seem to have a peculiar instability, a peculiar evanescence, so that although reading with complete comprehension may proceed over a unit of unlimited size, when the reader comes to review what he has read, a larger proportion of the ideas seems to slip away than in a similar situation in the mother-tongue." It is this point which calls for further investigation, and especially the difference between the pupil with a receptive knowledge only and one who has also been trained in expression.

One can offer nothing but praise to Mr. West for his work. He states his problem so clearly, investigates so scientifically, and puts forward his solutions so forcefully that the reader cannot but admire the frankness and fairness of the whole argument. Sir Michael Sadler, in a brief introduction, calls it a "book of creative power . . . scientific, compassionate, critical." It well deserves such praise, for it is one of the most stimulating and suggestive books on the bilingual problem that has ever been written.

FRANK SMITH.



## Book Reviews.

**The Language and Thought of the Child :** by Jean Piaget, Professor in the University of Neuchatel. With a Preface by Professor E. Claparède. (Kegan Paul. Pp. xxiii+246. 10s. 6d. net.)

This is another addition to the International Library of psychology, philosophy, and scientific method. In the preface Professor Claparède mentions that the author had distinguished himself as a biologist before turning his attention especially to philosophy and psychology, and claims, reasonably, that he collects observations on children in an "objective" way, similar to that in which he collected snails.

Briefly, Piaget's method was to record or have recorded for him the conversation first of two children and later a group of children, of about six-eight years, as they played and worked in a kindergarten school; and the records and Piaget's handling of them afford many points of great interest. The talk of the pair of six-year-olds was recorded for a month and the remarks classified. Piaget groups them into two main classes: (1) ego-centric and (2) socialized talk.

Ego-centric speech includes—

- (i) Mere repetition for the pleasure of talking, similar to baby prattle.
- (ii) True monologue.
- (iii) Dual or collective monologue, in which "the presence of another individual only serves as a stimulus," but his point of view is never taken into account.

Socialized speech includes—

- (iv) "Adapted information"—real interchange of ideas.
- (v) Criticism.
- (vi) Commands and threats.
- (vii) Questions.
- (viii) Answers.

The novel type, which is Piaget's special interest, is the ego-centric, and especially the collective monologue type, in which the child "talks to himself in front of others." It is the type which is most difficult to make clear, and some of Professor Piaget's descriptions may seem hardly consistent. Thus "He is not speaking to anyone. He talks aloud to himself in front of others" (p. 18), yet "Everyone is supposed to be listening" (p. 19). The differentia from true monologue seems to be that others are required as an audience, but not as an audience to whom the talk is to communicate anything. Yet this seems inconsistent with the given criterion of adapted information. "The criterion of adapted information, as opposed to the pseudo-information contained in the collective monologue, is that it is successful. The child actually makes his hearer listen and contrives to influence him, i.e., to tell him something" (p. 10). This surely implies that the collective monologue is "unsuccessful" in that it fails to influence the ideas of the audience, yet Piaget's own definition suggests that it never seeks to do this. In what sense, then, is it unsuccessful? In any case, how can the *success* of a speech determine its psychological nature? Surely this depends only on the mental attitude of the speaker.

In children of six years Piaget found that "adaptive information" gave only half as many remarks as "collective monologue." There is a remarkable absence of anything in the nature of "causal explanation" at this stage, and argument usually consists in the "clash of affirmations."

The main characteristic, then, of childish speech and thought at this time is that it is ego-centric, by which Piaget means something between (a) autistic thought (in which the aims and problems to be solved are not present in consciousness, as in some day-dreaming) and (b) directed or intelligent thought, adapted to reality. The former is intuitive rather than deductive. "A vision of the whole brings about belief," and judgments of value have great influence on it.

Another experiment of great interest is described later in the book, bearing on the question whether children understand one another better than they understand adults, or can explain things (simple machines or stories) better to one another than to adults. The results are all in favour of the adults. And Piaget argues that this is partly because ego-centrism keeps creeping into the child's explanation. "The explainer always gives one the impression of talking to himself without bothering about the other child," though he has not forgotten him, for he keeps saying "See?" "Do you understand?"

The concluding chapters give a fully illustrated discussion of the questions of a child of six, in which again all the questions "Why?" are classified into "Whys of causal explanation," "Whys of psychological motivation," and "Whys of justification" (by social or logical rules), and other questions, as to reality, history, etc., are also dealt with.

In these and the other discussions Piaget formulates a number of very suggestive hypotheses, though the novelty of his general conclusions is not, as it seems to me, as great as is sometimes suggested.

Also some sweeping statements into which he sometimes allows himself to slip (though usually cautious and tentative), as, for example, that "it is only from the age of seven or eight that there can be any talk of genuine understanding between children," and the statement especially that "the child of seven is still ego-centric and feels no desire to communicate with others or to understand them" make one surmise that his conclusions would be greatly modified by the daily observations by himself of children in the home over a continuous period. C.W.V.

**Needlework and Psychology:** by Margaret Swanson. (Longmans, Green, and Co. Pp. 95. 7s. 6d.)

Miss Swanson has in the past given us some useful and suggestive books on needlecraft. The present volume resembles its predecessors in outward form, and, like them, is delightfully illustrated with tasteful suggestions for children's work, and reproductions of the actual achievements of children under the author's direction (or, rather, to be in keeping with the spirit of the book, should one say observation?)

Unfortunately its usefulness as a book for teachers of needlecraft is severely limited by the fact of its being expressed in a pseudo-psychological verbiage amongst which the ordinary person gropes in vain for real content. Nor is the psychologist any more successful—in fact, many passages leave the reader in doubt as to whether the author herself knows what they mean. Take, for instance, the following passage from the author's preface:

"The child's psychical life pushes through the ordinary channel of plastic texture (calico, flannel, linen, etc.) with needle and thread mutating as it constructs."

Or later:

"Music cases and shoe bags are favourite choices, with the activity instinct roused at this stage to a predominance through the excitement of the emotion potentially contained in the choice."

And again:

"The cut-out umbrella is as subtle at this stage as the muff itself, since the modelling of the actual head of the doll is more of a low relief than of a modelled round, and fitments for the head form still another suggestion for the liberation of energy at this particular angle of education, leading to clearer conceptions and to the better functioning of memory."

It is needless to multiply instances such as may be found on almost any page of the book.

It is difficult to discover any basis of authority for Miss Swanson's psychology, and she should certainly explain terms such as "twin division," "the secretive impulse," "the recurring instinct," and "concrete classification of mind." In Chapter I the author classifies three children aged four-five years as respectively of super-intelligence, average ability, and under average ability on the basis of one undirected effort at production with unbleached calico, needle, and coloured thread. Surely no one using the word psychology should classify on such a slender basis! And, moreover, any teacher or parent with real knowledge of four-to-five-year-old children would seriously question the label "under average ability" as applied to the producer of the given example.

Miss Swanson's book may perhaps be said to serve a useful purpose in that it urges the application in the sphere of needlework of the Montessorian idea of less direction and more observation. The author is undoubtedly interested in children, and has learnt something from her own direct observation. She would have done better to express the results of these in language which a teacher might understand. The illustrations, being the comprehensible part of the book, will probably be copied, thus producing exactly the result which the author would wish to avoid.

L.E.S.



**Educational Diagnosis and the Measurement of School Achievement :**  
by M. J. Van Wagenen. (New York : The Macmillan Co., 1926. Pp. 276+viii.  
12s. 6d. net.)

If we admit that school achievements are measurable, that such measurements cover all the values of the school, that the success of a school is to be expressed "in terms of its educational achievement: the ranges of information, the abilities and skills, and the habits of work and of study that have been acquired by the students," then this book can be described as a workmanlike presentation of the methods and results gained in several American schools. But the claim that "the educational achievement of a school system can be as readily calculated as the profits made by a business organization" leaves me sceptical, perhaps a little hostile. I have met these profit and loss people before, and I have always found their profits of little worth, and their losses exaggerated. When the methods of measuring are a little more perfect, when scholars can be reduced to a measurable state at will, when we are more agreed as to the right things that should be measured and have related them to a reasonable philosophy of education, we shall be in a better position to assess the true values of measurement. Meanwhile, I am in some doubt about the assumptions that Professor Van Wagenen makes, and in considerable awe of his conclusions.

Take the following illustration: A mother comes to the principal of the school to ask his advice whether to send her daughter to the high school for a college preparatory course or to a domestic service school. The principal has a complete record of the girl's educational achievements in the seventh grade and in the eighth grade, and sees at a glance that while some of her achievement quotients are above 100, more of them are below. She is about a year in advance of the norms for spelling and arithmetic problems, almost at the norms in reading and the thought phase of history, about a year below in the fundamental operations of arithmetic, and more than two years below in range of information in both history and geography and in the thought phase of geography. "The few seconds that it takes him to glance through her card give him a better basis for advising Fannie's mother to select the domestic science course for her daughter than calling all her former teachers into consultation." One hopes that some mothers will take a second opinion.

The discussion of the problem of the classification of scholars is more valuable, and the author succeeds in showing that, in addition to chronological age, account must be taken of at least four more factors: the mental age, the intelligence quotient, the actual degree of achievement, and the achievement quotients, which indicate the rate of achievement gains in proportion to the mental age. The work of reclassifying the pupils with such information at hand becomes, we are told, "even more engrossing than a game of chess. For here the pawns are human beings and the moves affect human careers." So do all our scholastic moves, and the question we vainly ask is how? Professor Van Wagenen would reply that classes grouped according to his scientific methods are more homogeneous, and the best of them do more work. Perhaps the assertion will be put to the test of a long inquiry, for there are obviously many delicate factors involved in the relationships between the members of a group, and homogeneity is not necessarily an absolute good.

The most valuable chapter is the last, which discusses the selective, diagnostic, and evaluative functions of examinations, and stresses their essential differences. The reminder is valuable at the present time that "from the evaluative point of view the examination is not a hurdle to be cleared at the earliest possible moment and by any means; rather the point reached in it would indicate to the student how wide a range of information he has already attained in relation to what he needs to acquire."

F.S.

**Intelligence Tests in School Reorganization :** by L. M. Terman, V. E. Dickson, A. H. Sutherland, R. H. Franzer, C. R. Tupper, and G. Fernald. (Harrap and Co. Pp. 111. 4s. 6d.)

This book, while not professing to be a general account of the subject so far as the U.S.A. is concerned, deals with a variety of experiments which can be taken as typical of the various ways in which mental tests can be used as a help in school reorganization. One chapter deals, for example, with working out methods of individual instruction; another with the combination of intelligence and educational tests with a view to testing the efficiency of schools; another with the treatment of backward cases, etc. The book will thus be seen to be of special interest to the "practical teacher."

**Elements of Experimental Psychology :** by the Rev. J. De La Vaissière.  
(B. Herder Book Co., 1926. Pp. lvi+438. 12s.)

This does not claim to be a laboratory manual, for which reason experimental technique has been excluded from it; it is "written for those who are engaged in the study of philosophy, and aims at grouping for them, in a methodical way, the principal results obtained by experimenters, thus providing them the means of coming into closer contact with a positive science most useful to the furtherance of rational psychology."

It is truly comprehensive. It begins with a short history of experimental psychology and a discussion of experimental methods, and ranges over a very wide field—animal psychology, sensation, imagery, feeling, the unconscious, hysteria, hypnosis, thought, and even telepathy and spiritualism; but what it gains in breadth it loses in depth. It gives a very good account of French and Italian psychology, but as regards British it is not quite up to date.

Some otherwise good reports of experimental work are somewhat marred by the author's general attitude, and especially his conviction that the real solution of the problems of mind must lie with Rational Psychology (with a capital R). A few extracts will illustrate and give the atmosphere of the book. "Intellectual phenomena are those that exhibit an abstract character (general ideas, judgments, reasonings)—phenomena that do not occur in animals and do not appear in man during the first period of his existence," (p. 287). "Without exception, the psychological make-up of all men is at bottom the same. This is a principle that is not only attested by experience and experiment, but results from the unity of nature in all mankind, as proved by rational psychology" (p. xxi). "For every sensation, as for every image, there exists a corresponding physiological modification. This is a fact attested by experience and its proof belongs in the last place to rational psychology" (p. 96). "Experimental and rational psychology are in perfect agreement on this point. Starting with the characters of the objects attained by abstract knowledge, rational psychology demonstrates the spirituality of the intellect, and, consequently, its essential difference from all sense knowledge, sensation, or image; experimental psychology ascertains that in our thoughts there is something else besides imagery" (p. 298). "The last word on this question (the ego) must evidently be left to rational psychology" (p. 285).

The book abounds in quotations and references, and contains a 40-page bibliography. S.D.

**Apollonius, or the Future of Psychical Research :** By E. N. Bennett.

**Gallio, or the Tyranny of Science :** by J. W. N. Sullivan.

**Socrates, or the Emancipation of Mankind :** by H. F. Carlill.

(Kegan Paul. Each pp. 96. 2s. 6d. net.)

Three excellent additions to the "To-day and To-morrow" series. Mr. Bennett gives a critical account of the present position of psychical research, honestly admitting the frauds and the illogical reasoning by which it is often marred. At the same time there is so much sound evidence that the subject must be treated without prejudice by educated people; in particular, it cannot be ignored by psychology. Telepathy Mr. Bennett regards as established, and as a more helpful concept than "the unconscious," or the "homing instinct" of cats and pigeons. Gallio agrees with Apollonius that psycho-analysis is "silly;" and that science is not materialistic in tendency. Mr. Sullivan argues, with his well-known cogency, that science (especially mathematical science) deliberately omits many aspects of experience in order to reach its abstractions; but what is omitted does not, therefore, not exist. Poetry, music, and the arts generally, deal with these omitted aspects, which are equally, if not more, important to us as human beings. Relativity is beginning to teach scientists this truth. Unfortunately physical science has tyrannized over sciences for which its method is unsuitable—e.g., over psychology, in which the "measurements" are often meaningless, and in which undue simplification (e.g., in Freudianism) is apt to mislead.

Mr. Carlill's book is equally stimulating. His case, put very briefly, is that with increased knowledge of our instincts we shall be able to put them in their place, and so live more in accordance with reason. So far from lamenting the irrationality which psychology sees in the conduct of life, he hails this new knowledge as the beginning of a new era for human development. "The clear consciousness that our instincts are part of the inherited structure of the organism which it is for us to regulate as we think fit will, in fact, be another Copernican revolution." F.A.C.



**New Schools for Older Students :** by Nathaniel Pepper. (New York : The Macmillan Co. Pp. 250. 10s. 6d. net.)

This volume forms one of a series "Studies in Adult Education," and should, we are told, "be read in connection with the companion volumes or with them in mind if adult education in the United States is to be visualized as a whole." Thus it does not deal, with e.g., University extension or the public library. Still, what remains is sufficiently remarkable. The problem of adult education in America, as in England, concerns both the middle and the working-classes ; and the former are the more difficult to reach. "In adult education" (says Mr. Pepper), "the question is not so much what shall we do to literate and improve the ignorant mass, but what shall we do to enlighten the great sodden American middle-class—college graduates, owners of \$3,000 cars, members of country clubs?" We may not have Babbitt on this side, nor can we parallel the worst revelations of the *American Mercury* ; but we can hardly afford to throw stones. Something is, however, done for the American middle-class. There is the Open Forum, which flourishes chiefly in New England—a kind of lecture and debating club, in which those who cannot stand the churches find a substitute for them. Less intellectual as a rule is the Institute ; though the long-established Lowell Institute at Boston is an honourable exception, most of them provide entertainment rather than culture. Most hopeful are the organizations described in the chapter "Individual Schools," e.g., the People's Institute of New York, in which there are not only courses of lectures delivered to large audiences, but also classes for genuine study. Some idea of standards may be gained from the admirable book on "Psychology," by the Director of the Institute, Everett Dean Martin—which formed one course of lectures ; while a class in psychology was conducted for two terms in 1925-26 by Prof. W. Köhler. There is nothing in England analogous with the People's Institute ; possibly the Working Men's College is the nearest parallel.

Mr. Pepper deals with workers' education in a most interesting chapter. He explains the reasons why such education is less organized than in England. Things are, however, moving rapidly—so rapidly that, as the author says, any account is out of date by the time it is printed. The Workers' Education Bureau (1921) acts as a clearing house and propagandist body ; but it also assists in the formation of classes. Though a part of the American Federation of Labour, the bureau does not appear to have the sincere backing of the Federation : "There are 4,000,000 organized workers alone in the United States ; 30,000 are attending classes." Again, comparisons with this country are obvious.

The author closes with some very shrewd remarks on the methods and philosophy of adult education, and gives some fresh illustrations. One must be quoted—the story of a lecturer dealing too academically with economics "in a small mid-western industrial town." The course dragged along for two or three meetings, but at the next "suddenly there was an ominous scraping of a chair and a stolidly-built iron-moulder rose slowly to his feet. 'Professor,' he asked undemonstratively, 'Professor, what the hell are you talking about?' And looking neither to right nor to left, he walked out of the door." The story ends happily, for the lecturer took the lesson to heart, and developed into a most successful teacher. F.A.C.

**Education for Responsibility :** by L. L. W. Wilson. (Macmillan Company, New York. Pp. xvii+310. 6s. net.)

Is well worth attention not alone by those who are thinking of trying out some form of "Dalton Plan" in their schools, but also by some who have tried and succeeded up to a point below their expectations, or not being yet convinced have not tried at all. The authors, who describe themselves as members of the Faculty of the South Philadelphia High School for Girls, present opinions based upon many years of practical trial in that school ; they do not throw out merely general principles but give valuable hints on libraries, technique, organization, and many other matters which oftentimes prove stumbling blocks in the path to success. The thesis falls into two parts, of which the second shows how self-education is worked out in the specific studies of English, history, science, mathematics, languages, art, foods, and clothing, while in an Appendix there are detailed specimen assignments which are really full of suggestion. The book also contains a good Bibliography of "Dalton" literature. On the whole, the work is one of the most comprehensive single volumes on the subject the present writer has seen. A.P.B.

**American Association for Study of the Feeble-minded :** Proceedings and Addresses. Fiftieth Annual Session, 1926. Pp. 294.

There is, perhaps, no question of the day upon which there is more loose thinking than that of feeble-mindedness. This confusion of thought arises from the fact that the problem is not an isolated and unitary one, but has many facets each of which reflects the standpoint of the observer. Hence, whether it is approached from the biological, compassionate, or educational point of view, the particular aspect which it presents tends to be regarded as the only one. It is therefore only by conferences such as those organized in England by the Central Association for Mental Welfare, or by the American Association for the Study of the Feeble-minded, when by the presentation of different aspects the subject can be viewed as a whole. America has always shown great practical interest in the problem ever since Seguin, upon whom had descended the mantle of Itard, emigrated from the political turmoil of France, and gave his long experience to the establishment of the first schools for the feeble-minded in the United States.

The papers read at this, the Jubilee meeting of the Association, show a happy combination of clinical and social papers and are full of advice based upon practical experience.

Dr. C. S. Raymond, speaking of the industrial possibilities of the feeble-minded within an institution, gives a very useful summary of the industries which may be usefully performed by persons of mental ages varying from three to ten. He repeats the statement, made many years ago by Dr. Walter Fernald, that much of the rough work of the world will always be left to be performed by persons of small intellectual ability. Looked at from this point of view, the presence of such persons in our midst is one of the safeguards of a complex civilization such as ours, for many of the meaner but essential labours, digging, delving, scavenging, and the like, would be seriously handicapped but for the existence of these mentally-inefficient folk. Dr. Emily Burr pursues the same theme in her paper on the adjustment of the feeble-minded in industry. Dr. Dayton gives a valuable contribution on the part played by congenital syphilis in the production of feeble-mindedness, and rightfully points out that from a statistical point of view congenital syphilis does not appear to be a serious factor in the causation of mental deficiency. A similar conclusion is reached by Dr. Davenport in his paper on the nature of hereditary mental defect. Another clinico-statistical paper is that on the relationship of the cerebral accidents of childhood to mental deficiency. These appear to play an important rôle, for in the series of cases under consideration 40 per cent. were designated as imbeciles, 20 per cent. as idiots, and 16 per cent. as feeble-minded (morons).

The defective delinquent is dealt with in several papers, notably that of Dr. Branham on Social Inadequacy : a study of 135 cases psychologically examined at New York State Institution, and that on the Utility of Parole as a method of dealing with the problem of the social inefficient. Dr. Loughlin treats the biological side from the eugenic point of view, and argues in favour of sterilization, which, he considers, is beginning to fill an important place in the social effort to control hereditary degeneracy.

The immigration of large numbers of persons of poor mental equipment from the Old World has intensified the seriousness of the problem in America, for it has proved the absolute necessity of self-protective measures to regulate the quality and quantity of those who seek the privilege of her citizenship. The fact that there are now 58 State institutions for the feeble-minded in the United States is an eloquent testimony to the practical interest of her statesmen in the future welfare of the American nation.

G.A.A.

**Fourth International Moral Education Congress, Rome, 1926.** Three vols. Price 14s., post free, from Prof. Zichichi, R. Università, Via Sapienza, Rome.

These three volumes total over 750 pages, and are in mixed languages—English, French, German, Italian, and Spanish. There are quotations in Latin and in Greek; Esperanto and Ido are not used. In order to be intelligible to every educated person the papers are bound together with a thread of Italian. It seems a case for magnifying the office of our modern language colleagues and asking them to read these reports on our behalf.

The motive power in Rome seems to have been Prof. Orestano; for much preliminary labour we are indebted to Mr. F. J. Gould (of Armorer, Woodfield



Avenue, Ealing, London, W.5). Judged by the printed reports the congress seems to have been well organized ; the editing of the reports has been exceptionally well done.

Two chief topics were prescribed for discussion. " The possibility of a universal moral code as a basis of education " was introduced by Mr. Abdullah Yusuf Ali. With his wide knowledge of Eastern life and thought he reports that a universal code is not yet possible. Other speakers approved the golden rule of the Sermon on the Mount and Kant's imperative. Some American schools offer their scholars new decalogues. The outlook of the speakers was very varied, including those who thought salvation only possible within the Christian religion and those who thought progress only possible without it. A second topic, " Personality : how to develop it in the family, the school, and society," was introduced by Mr. G. Belot, of Paris, and Prof. F. Adler, of New York.

On the whole, a superficial impression is of adjectives, oratory, enthusiasm, and much talk " about it and about." This may be only due to the reviewer's faint knowledge of the Romance languages. The discussions seem to get very far away from school life, and to savour of philosophy and metaphysics more than of experience with children. No doubt the prescribed topics lent themselves to vague generalities.

A ton of quartz may be valuable for the sake of a few ounces of gold that it contains, a ton of pitchblende for a few milligrams of radium. Is there any anything to be extracted from these reports ? Yes ; two things. (1) The Italian Junior Red Cross (Croce Rossa Italiana Giovanile) appears to be doing remarkable work in hygiene and mutual aid particularly in remote country districts. It deserves the attention of English travellers. (2) Of " Les Lignes de Bonté " it is reported that each child is urged to perform a good deed daily and to report this in writing, but without any name signed ; the reports to be placed in a box in a school. Afterwards these anonymous reports are read aloud. It is claimed that this plan greatly encourages moral thoughtfulness.

There is no question about the lofty aims of the Conference. If one may be a little critical it is thus : We are apt to be so dazzled by our own good intentions that we do not see exactly what results our efforts produce. Can we assert for any single process of alleged moral education that we have proved by observation and experiment and beyond challenge exactly what processes produce what results ? Too often the alleged results only exist in a *a priori* argument.

For contrast, take the statements made by Frau Charlotte Buhler and others in " The Pedagogical Seminary " for December, 1926, and supported by statistical analysis of questionnaires : (1) That girls in Vienna learn to lie before the age of 10 ; that they learn largely from the example of their mothers ; (2) That boys in America are not very dishonest in their school-work when they first enter the high school, but that for each successive year in the high school they become rapidly and increasingly dishonest in classroom-work.

Readers of the FORUM OF EDUCATION will feel that there is a strong case for trying to extend the methods of exact psychological research into the realm of moral education.

H.R.

**The Psychology of the Free Child :** by C. M. Meredith. (Constable. Pp. 212. 5s.)

One's chief regret on reading Mrs. Meredith's interesting and valuable book is that its title was not better selected with a view to attracting the class of reader for whom the book is so obviously intended. The word " psychology " has attractions for the teacher, the student, and, very occasionally, for the more advanced type of parent ; whereas this book, interesting and helpful as it may be for all teachers and students, should, nevertheless, make its chief appeal to parents. Moreover, though every page of the book bespeaks the author's sound knowledge of child psychology, her language is singularly free from the formal phraseology which tends to make the subject so formidable for the " average " parent to approach. Two chapters only are devoted primarily to the psychological aspect, and even in these practical applications give point to theory at every turn. The first of these describes the characteristics of the " Free Child in a Natural Environment," " natural " meaning for the author's purpose " that which is most usual for the type of child whom she is mainly considering." This is the child between three and eleven years of age, belonging to

middle-class parents, and the education discussed is that of the home rather than of the school. The second is an excellent chapter on habit, sound in its psychology, simply expressed and amply illustrated—a most useful chapter for students' reading.

In the chapters on "Desirable conditions," "Self-dependence in every-day activities," "Play and Lessons," Mrs. Meredith shows a breadth of view, real understanding, a respect for children, and a desire for a degree of freedom not realized even under the Montessori régime. The wise mother speaks on every page, and one lesson above all others which the reader may learn is the importance of tact in one's relations with children.

The author is an advocate for the postponement lessons: "Even with children of nine or older it is often impossible not to regret the effects of lessons. And with children under nine I believe the intellectual loss resulting from definite lessons outweighs considerably the possible gains in completeness and thoroughness of knowledge." This is, of course, written for parents who can control the education of their children, but it would be well if all teachers, even though they may not find themselves in entire agreement, would give their serious consideration to the arguments and experience with which the author supports this expression of opinion. It is also, for her, "a matter for regret when an intelligent child of seven or eight has learned to read." In her discussion of early methods of teaching, reading, and writing the author wisely realizes that different methods are suited to different individuals. At one point only does she become at all dogmatic, and that, curiously enough, on a matter of minor importance, viz.: the teaching of capital letters before small ones. On the debatable question of the training of children's taste by the selection of reading material Mrs. Meredith has an open mind and contents herself with stating what she "would like to think."

Mathematics, unlike reading, should be started early. "Assume ability, assume interest, and begin young," is the author's advice, and to this she adds later in the chapter the opinion that early work should be concrete and mental, written work being postponed till considerably later than the usual period.

The remaining subjects—history and geography, handwork—are less fully treated, but the chapters are interesting and suggestive, and the author's advice is always based on a real knowledge of children's interests.

A topic which seriously exercises the minds of intelligent parents nowadays is that of the religious education of children. The author omits any reference to this. One cannot refrain from regret that a writer who inspires confidence in her treatment of other matters, by her fairminded consideration of all methods and all points of view, in relation to the nature and needs of children, and by her courageous statement of opinions thus acquired, should have refrained from giving her experience in this direction also. Perhaps some day she may do this. Whether as an addition to some future edition of her present work or as a separate book, its welcome is assured.

L.E.S.

**Brain Capacity and Intelligence:** by E. Morris Miller, Litt.D. (Macmillan and Co. 1926. 2s. 6d. net.)

At the present time when more is heard of psychological tests than of anthropometric measurements, it is well to know the exact value of the latter in the study of mental abnormality. For this purpose the above study by the Director of the Psychological Clinic of Tasmania can be recommended.

The researches of Prof. Shaw Bolton and others stimulated Berry and Porteus of Melbourne to measure the height, length, and breadth of head of nearly 9,000 individuals, including children and adults of both sexes in Victoria, and to express the product in cubic centimetres according to Dr. Alice Lee's formula. From their percentile curves for each age they laid it down provisionally that the mentally abnormal types would tend to be found below the 10 percentile and above the 90 percentile. They also affirm that their percentile tables are distinct aids in the diagnosis of mental subnormality and afford a more certain basis than has hitherto been obtained from single measurements of circumference, length, breadth, or height, or from the cephalic index. They claim that their tables afford some clue to the relative degree of development of the all-important supra-granular layer of the cortex on which Bolton lays so much stress.



Prof. Miller applied the methods of Berry and Porteus in Tasmania and found confirmatory evidence. He concludes that "among the 10 percentile unit for the whole male population we would probably find about 50 per cent. of the defectives, about 25 to 30 per cent. of the border-lines, about 20 per cent. of the normal inferiors, and about 5 per cent. of the higher grades of normals." Thus, although the defectives, border-lines, and normals inter-blend at all ranges, and although no definite points on a line of measures can be found which will enable these classes to be differentiated, yet Dr. Miller claims that the brain capacity record should be utilized along with the other recognized methods in the diagnosis of mental deficiency.

It is interesting to find that Binet, Karl Pearson, Berry and Porteus, and Miller all agree that height of head is less associated with intelligence than length or breadth.

Further, Berry in Victoria, and Miller in Tasmania, found the mean cubic capacity of criminals to be considerably lower than the mean of normal members of the community. But caution is here necessary, for Pearson would view such differences as being largely due to differences in nurture, as he has repeatedly stated that there is only a slight correlation between size of head and general intelligence.

Miller, however, concludes that this correlation is higher than that indicated by Pearson. The only way to decide the question is by further painstaking research.

L.I.W.J.

**The Technique of Examining Children :** by B. C. Wallis. (Macmillan and Co. Pp. 135. Price 3s. 6d.)

The book is written by an experienced authority in the business of examining, the Chief Examiner for scholarships for the Education Authorities of London, Birmingham, and Brighton. The book will undoubtedly interest teachers who are curious to know the views of at least one of the prominent examiners.

If one attempted to classify the work on reading only the first third of the book, one would label it as a work on educational apologetics. The author endeavours to describe his new product, the modern examiner. It is a first cross between the new examiner and the old examiner. A first cross makes very fine utility stock, but it is not very helpful for the scientific purifying of the strain. The book contains many valuable conclusions based on the author's extensive experience, but it would have been much more satisfying if the pedigree of these conclusions could have been given. What is very much needed to-day is an orderly arrangement of the facts so that others can check the conclusions of the authorities. Is it that the more scientific exposition of educational problems awaits the day when publishers can be persuaded to print the evidence?

In Chapter VII the author makes a valiant plea for replacing an arbitrary standard of success by the average performance of the group of candidates; he rightly claims that the prefixed standard is liable to be variable and unfair. "If all the teachers idled for a year, it is not his (the examiner's) place to plough their candidates; it is his business to take the scripts as he finds them and grade them in order." In Chapter VIII the author has some good advice to give regarding the evaluation of essays. He outlines a scheme of marking which "forces them to do what essay examiners seem to dislike—to score 7's for points when the essay is well above the average merit, and to score as many 1's as 7's." In Chapter IX he deals with arithmetic questions and their assessment. He pleads for the due recognition of ability untrammelled by the shackles of orthodox statements and argument. He gives the following illustration: "Question.—A number of children were invited to a Christmas party. Enough oranges were bought for each invited guest to have two. Some children were absent, so that a quarter of those present had a third orange. What fraction of the children who were invited were present?"

"The amazing ability of the best candidates is evidenced by the following solutions: (a) Four children had nine oranges instead of eight. Answer:  $8/9$ ; (b) Child had  $2\frac{1}{4}$  oranges instead of two. Answer:  $8/9$ ."

The following explanation is a biting commentary on the effect of mathematical teaching in schools. "An adult finds these problems difficult because he has to choose his method of trying to reach a solution. A child is not penalized by the hesitation between two or three possible methods of attempting a solution; and the teacher who tries to put the child in the position of an adult is spoiling the child's chances."

E.J.G.B.

**The Place of Play in Education :** by M. Jane Reaney, D.Sc. (Methuen. Pp. ix+121. 3s. 6d. net.)

In "The Place of Play in Education," Dr. Reaney succeeds not only in giving her readers a summary of the important work already done on the subject by psychologists and pedagogues, but also in letting a real enthusiasm for the play way of education shine through. Hence it is she has written a really valuable book for students and teachers, for undoubtedly she is right in her thesis that the function of the teacher is to learn from children's play the methods by which they should learn.

The book falls into three main sections: a brief account of the theories held on play from Schiller to Stanley Hall, and here one might suggest that Dewey's work is more worthy of consideration, as far as practical teachers are concerned, than Stanley Hall's. There is also a very summary account of the history of certain games and an attempt to suggest the reasons for their popularity by associating them with certain instincts, in the sense that McDougall would use that word. This section of the book gives more fresh matter to the average teacher than the dissertations on the theory of play which every training college student is made to learn. To certain types of people origins have a peculiar interest, and the writer of this review found herself disappointed that there was so little information to be had on tennis and no attempt to explain its growing popularity as a game to be watched. Has Dr. Reaney sufficiently emphasized that just as the aim of æsthetic training in the schools is to make intelligent amateurs, so one important result of encouraging games is to make intelligent spectators? Most boys at some time or other play, or think they play, football, few play cricket, a growing number of the folk who can afford a fairly high entrance fee play tennis. Hence they take a player's holiday and go to football or tennis as the case may be. The third section of the book gives a very useful account of the movement both in England and America to provide play grounds and play ways for children and the consequent need for playground instruction and, in America, trainers for such.

Dr. Reaney gives in this section an admirable summary of an important movement and it is here that her vision of what play could do for education, of what prescriptive methods of education have made of man, is most clear.

The book closes with a very good collection of games, described so clearly by Miss Amy Whateley that any teacher could teach them. These games are arranged in four classes corresponding to the four play periods into which Dr. Reaney classifies books.

Miss E. R. Murray has done such gallant work in education that one dislikes to see the printer's error of E. M. Murray (page 53). Nor should he have been allowed to print "none of these needs are satisfied!" N.C.

**The Board of Education :** by Sir Lewis Amherst Selby-Bigge. (G. P. Putnam's Sons, Ltd. Pp. 300. 7s. 6d. net.)

The Whitehall series, to which this volume belongs, consists of books by eminent Civil Servants describing their several departments. No living man can know more about the Board of Education than Sir Amherst Selby-Bigge; and he has written an exact and authoritative account of its staff and organization, finance, regulations, etc.; its system of inspection; its relations with L.E.A.'s, with teachers, etc. There has been nothing like this book before; hence it should be read, and afterwards kept at hand for reference, by everyone who has any official connection with education. The author has kept wisely to a statement of facts. Occasionally, as in the sections on "Efficiency" and "Value for Money," he allows his own views to appear; but he is not concerned with stating or answering criticisms of the Board's policy or methods. Many other distinguished ex-officials have produced books, anecdotal, didactic, mystic, or vindictive; but so far as educational administration goes, this is by far the most valuable. F.A.C.

**Third Congress of the Universities of the Empire. Report of Proceedings :** edited by Alex. Hill, O.B.E., M.A., M.D. (Bell and Sons. Pp. 270. 21s.)

This gives a full report of the important congress held in 1926 at the University of Cambridge. Many supremely important problems in reference to university work and life were discussed by some of the most eminent representatives of universities throughout the Empire. These include "The State and the University," a topic



of growing importance with the development of central organization of education ; "Co-operation in Research ;" "The Classification of Honours Graduates," in which we are glad to see recommended the abolition of the objectionable Class III in Honours, a classification which is apt to be misleading to the layman who hears that a student has graduated with honours, whereas university teachers know well that it does not necessarily imply any greater ability than a pass degree. Other topics are "Physical Training in the Universities" and "The Working of the Ph.D. Degree Scheme."

**Home and School :** by Mrs. A. Hutton Radice. (Home and School Library. Partridge. Pp. 254. 5s.)

The "Home and School Library" has been formed to provide a series of interesting books by recognized authorities in the hope of assisting to establish a more intimate connection between home and school. The present volume is written mainly by Mrs. Radice, with contributions by Mrs. H. A. L. Fisher, Lady Erleigh, and Mrs. Coombe-Tennant.

Perhaps the most valuable part of Mrs. Radice's contribution is in the first three chapters. These constitute, first, a plea for greater interest on the part of English parents in the education of their children, with a comparison between English and American parents in this respect, a comparison in which the English parent fares very badly ; secondly, a plea for the extension of some form of teacher-parent associations ; and, lastly, for the more general establishment of nursery schools, with descriptions of many such schools known to the author. In this and other chapters the author shows a wide knowledge of pioneer schools and of modern educational experiments in this and other countries. Throughout the book she is unsparing in her criticism of traditional points of view resulting in undesirable practice in schools ; and the English public school in particular is the subject of much critical discussion.

Some chapters, such as those on "Speech, Music, and Art," are very slight, but perhaps, as the General Editor suggests, these are to be dealt with in later books of the series. The chapter on children's reading contains many useful suggestions for books on various topics likely to be acceptable to children.

Some of Mrs. Radice's statements raise a doubt as to whether she is quite up to date in her experience ; for instance, her account of the carpentry class in the Midlands would, at any rate, have been more *generally* true in the year 1900 than now, and when she seriously suggests that the teachers' certificate examination would be more suitable for girls of sixteen than the present school examinations, surely she cannot be conversant with the present standard exacted by the former. If, however, she means that the range of subjects would be more suitable then, doubtless, many will be found to agree.

Mrs. Radice covers a vast range of subject matter, and since this can only be broadly treated, it would, perhaps, be better if there were fewer illustrations culled from sayings and doings of her own children. These form interesting reading, but, naturally, cannot serve to establish any general principles. Incidentally, it would be interesting if some psycho-analyst could tell us something of the effect on the children of educationist parents when they discover sooner or later that their sayings and doings are publicly recorded in a book for all the world to read.

Mrs. Coombe-Tennant, in her chapter, "The Boy as Future Citizen," condemns the traditional public school point of view, and demands a training which shall help to realize the League of Nations ideal. Mrs. Fisher on "The Girl as Future Citizen," is content with pleading for a sound general education for girls up to fourteen, with some study of economics and political science for older girls ; and whilst recognizing the importance of training for citizenships is not very positive as to the method. Viscountess Erleigh speaks earnestly of the importance of training in mothercraft, and gives some account of the work of the Nursery Training Colleges.

L.E.S.

**The Reproduction of Life :** by A. J. Cokkinis. (Ballière, Tindall, and Cox. Pp. xvi+287. 10s. 6d.)

There is no doubt that publishers and author have succeeded in turning out a most attractive book. Illustrations, type, and binding encourage a prospective reader. The material selected for the purpose of making clear to "parents, teachers, and ministers of religion" as much of the physiology of reproduction as is necessary in

order to answer children's legitimate questions intelligently is excellent and well organized. There is need for a book of this kind, written on strictly scientific lines, but readable and understandable to those without a scientific training, and but for the last two chapters the present reviewer would have little but praise for this production.

The writer, as a medical man, has a claim to write with authority on the subject matter of eighteen chapters of his book, and he does so, but by many he will be recognized as having departed from his own ideal of strict scientific outlook and treatment in his last and last but one chapters. One quotation will make this clear: "To the boy, the dawn of sex is only one of many important attributes of developing manhood, to the girl it is the one stepping-stone to womanhood. A woman is a far more sexed individual than a man. Her normal life consists of home, husband, and children; in other words, her psychology is simply a complex of love."

F.M.R.

**Stories about Mathematics Land :** by D. Ponton. (J. M. Dent. Pp. 160. 3s. 6d. net.)

The former is an excellent little book on the recreational side of arithmetic. In the course of solving the puzzles much would be learned of the rules and the properties of number which would probably not be so readily apprehended by other and more formal methods.

The second book is one of a series which teaches a little history, a little geometry playfully treated, and passes on to problems in geometry and algebra, worked with clear explanations of procedure and some exercises. The last named are few in number, but the book is likely to be useful on the library shelf.

**The Story of Reckoning in the Middle Ages :** by Florence A. Yeldham. (Harrap and Co. Pp. 96. 4s. 6d. net.)

This is one of the books that make it less difficult to understand man's mentality in the Middle Ages, and supplies a large fund of information for those who are interested in the history of mathematics or like to give their lessons a little humanistic touch. Miss Yeldham was necessarily obliged to anticipate the date of the beginning of this period, and has given an exceedingly complete "story" considering the limitations imposed by a small book. Professor C. Singer has contributed an Introduction written in his usual interesting style.

**Children's Interests in Reading :** by A. M. Jordan. (University of North Carolina Press. Pp. 103. 7s.)

This is a second edition of the work by Professor Jordan, additions being based upon a new census of children's preferences, in two High Schools of North Carolina. Whilst the special references to books and magazines are of peculiar interest to American teachers, the work affords material of general interest to those concerned with guiding the reading of boys and girls.

**Modern Mathematics :** by R. Schorling, J. P. Clark, and H. W. Carter. (Harrap. Pp. 226. 3s. 6d.)

The aim of this book is stated to be to destroy the idea "that mathematics is bounded by the four walls of the classroom." It should go far towards realizing this aim among the juniors, though we are by no means certain that the continued introduction of proper names helps.

**The Year Book of the Universities of the Empire, 1927.** (Bell and Sons. Pp. xii+858. 7s. 6d.)

A valuable book of reference for the college library. Of special interest is the appendix, giving titles of theses accepted for all the various degrees of doctor in the universities of the Empire.



OTHER PUBLICATIONS RECEIVED.

**Pomona, or the Future of English :** by Basil de Selincourt. (Kegan Paul. "To-day and To-morrow Series." Pp. 94. 2s. 6d.)

Is interesting reading, especially the section on American literature and thought.

**Arithmetic.** Parts III and IV : by C. V. Durell and R. C. Fawdry. (Bell. Pp. ix+369. 2s. 6d.)

An excellent book with a very wide selection of up-to-date and practical examples.

**An Elementary Puzzle Arithmetic :** by G. C. Barnard, M.Sc. (George Allen and Unwin. Pp. 68. 3s. 6d. cloth, 1s. 9d. paper, net).

**Benn's Sixpenny Library :**

No. 1.—A History of England : by D. C. Somervell.

No. 53—Italian Literature : by E. G. Gardner, Litt.D., F.B.A.

No. 54—Shakespeare : by G. B. Harrison, M.A.

No. 101—Modern Scientific Ideas : by Sir Oliver Lodge, F.R.S.

No. 102—The Age of the Earth : by Arthur Holmes, D.Sc., F.G.S.

No. 103—The Atom : by Professor E. N. da G. Andrade, D.Sc., Ph.D.

(London : Ernest Benn, Ltd. Pp. 70-80.)

A notable series—more popular in price than in substance, and likely to be of greater service to the student than to the general public.

**Grip-Fast History Books, V :** United Britain, Political and Economic History, from James I to present day : by Susan Cunnington. (Longmans Green and Co., Ltd. Pp. 219) ; and Teachers' Book. (Pp. 43, 4s.)

Further volumes of a series noted before.

**One-Act Plays of To-day : Third Series :** selected by J. W. Marriott. (George Harrap and Co., Ltd. Pp. 253. 2s. 6d.)

The third collection includes plays by W. B. Yeats, Stanley Houghton, Lord Dunsany, etc.

**John Donne and His Poetry :** by J. W. Payne. (Harrap. "The Poetry and Life Series." Pp. 165. 1s. 6d.)

Donne's strength and weakness as man and poet are described with scholarly precision ; the volume is a fascinating addition to a notable series.

**One Touch of Nature :** arranged by F. W. Tickner. (University of London Press. Pp. 187. 2s. 6d.)

A very attractive nature study reader, including a brief account of the lives of Fabre, Jeffries, W. H. Hudson, etc., with extracts from their writings.

**The Building of the Wall : a Biblical Play :** arranged by C. E. Curreger. (Christophers. P. 32. 10d.)

A very interesting experiment in the application of the dramatic method.

**Algebra for Schools : Part I (with Answers) :** by J. Milne and J. H. Robertson. (Bell and Sons. Pp. vii+173+xxx).

**Grip-Fast History Books, IV :** Middle Ages and the Renaissance, Roman Britain to Elizabeth : by F. A. Forbes. (Longmans Green and Co., Ltd. Pp. 190.)

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# The Forum of Education.

VOL. V. No. 3.

November, 1927.

## Some Problems of Rural Schools.\*

By T. O. WILLSON.

I HAVE been asked to say something about the training of rural teachers, and I feel that before any very clear ideas on this subject can be arrived at, it is necessary to examine rather carefully the conditions under which rural teachers have to work. There is a great deal of irresponsible and ill-founded talk about rural schools and their relation to agriculture and to people in the country, which necessarily has its reflection in discussions on the training of rural teachers.

The countryside is undergoing great changes, and it is difficult to say precisely how far they will go, or how fast, or what their outcome will be. There is on the one hand the depression in the agricultural industry, and on the other the improvement in the social amenities of the village; there is the continued drain from the country to the town, and at the same time the migration of industries from large towns to districts within easy reach (owing to motor transport) of the country, which leads in many places to the establishment of a population resident in the country but not working on the land.

The country school has a definite bearing on these rural problems, but they—particularly those which affect the agricultural industry—cannot be solved solely, or to any great extent, through the school.

It is customary to attribute a great deal of the troubles of the countryside to the schools, or even to assume that the schools could, if run on some other lines, put matters right. This view perhaps attributes an undue influence to educational considerations and too little to economic factors, but apart from that, it must be remembered that attendance at school occupies a *comparatively small amount of the waking hours of children* between the ages of five and fourteen—about one-quarter of this time is spent in school, for the remaining three-quarters the children are exposed to influences which, if not actually hostile to those of the school, are often of a kind which do little to assist the work of the school. Throughout their school life the children, as well as their parents and their teachers, feel the economic pressure which tends at present towards migration to urban areas in search of more remunerative employment. This migration may not be due to any dislike of rural life and, indeed, there are very many cases in which villages are developing into dormitories for those employed in urban industries or in work entirely unconnected with the land. In

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\*A paper read at a meeting of a branch of the Training College Association at Oxford, 21st May, 1927.

such cases it is incorrect to speak of migration, for the people remain, but change their employment to the detriment of the farmer and to the complication of the problem of rural housing.

The cry in some quarters, now as always, is that elementary schools, whether in town or country, are not giving the right kind of teaching, or that children are not being taught by the right kind of teachers. People say that the schools do not "deliver the goods," but few take the trouble to specify what "the goods" should be. Fewer still understand to what an extent the country child and the country teacher are handicapped during the few years of elementary school life, or how much this disability can be lessened by a wise system of grouping the elder children in senior schools which, when it has had a fair trial, is appreciated both by the children and their parents. Employers of agricultural labour tend to complain that the quality of the rural worker has deteriorated and that labour is harder to obtain, but they fail to realize that one of the reasons for rural depopulation (apart from the question of wages and housing) is the lack of good educational facilities for children.

Further, it is often alleged that the school is directly responsible for a dislike of rural life and consequently for the continued depopulation of the country. This very general statement is made as a rule without any attempt to produce evidence in support of it, and employers of agricultural labour have actually suggested that the only way to stop the "rot" is to get children away from school at the age of eleven and put them on the land. The truth is that there is very serious dissatisfaction in rural areas on the part of those connected with the land, and in certain quarters a mistaken idea prevails that all the troubles are due to the school, or even to education.

Remedies of all kinds are suggested; sometimes purely vocational teaching is advocated. A manager of a village school, who was the owner of the building and the squire of the village, once complained to me that the education given in his school was all wrong, and on being asked for further details he explained that the boys would all become plough boys, bakers, carpenters, etc., and that they should be trained accordingly. He was unable to suggest how each trade could be taught in the very indifferent school premises available, by a woman head teacher responsible for the general education of some thirty children from four to fourteen, with only the help of a supplementary teacher.

Other people put their trust in some particular form of handwork, and a very numerous body press the claims of what is called "Rural Bias." Rural bias has been explained sometimes as the absence of a bias in favour of town life, sometimes as the use of rural material and examples in the teaching of the ordinary school subjects, e.g., instead of calculating the number of paving stones for a given area, children are expected to know the weight of artificial manure required per acre. Other people advocate practical agricultural instruction, including hedging, ditching, thatching, etc., as suitable for small country schools retaining children only to the age of fourteen. This generally presupposes that the instruction will be given by an outsider with no school teaching experience—or by a teacher who is either not qualified or is inadequately



qualified to undertake this work even if he or she is remotely interested in it. The number of teachers, whether of town or country extraction, who are competent to give technical agricultural teaching is extremely small, and there are many cases in which access to land for practical work would present difficulties quite apart from the very restricted time available for general education within the ordinary limits of school life of most elementary school children.

The advocates of rural bias overlook, very often, a number of facts which make its introduction in small schools difficult and of little value.

In the first place, it is often assumed by managers and employers that in a village all the children will stay on the land, but this is far from being the case. Very few of the girls take up work in connection with agriculture, and of the boys only a comparatively small number are actually absorbed by farm work, many of them only taking it up for lack of opportunity for other work, and leaving as soon as a good chance offers elsewhere. I do not think that much more than 40 per cent. of the boys (including the duller and less intelligent children) from the schools in this county go on to the land. In this connection, the result of an enquiry from the teachers of schools in the county shows that they are convinced that school gardens, however adequately run, have little or no effect in the recruitment of boys for agriculture.

Differentiation between boys and girls becomes necessary if a vocation bias is introduced, and the present troubles of classification in small rural schools are at once doubled. Assuming that among pupils over eleven there are as many boys as girls in the school and that even 50 per cent. of the former intend to go on to the land, it means that special organization is required for one-quarter of the elder children. Again, even if 40 per cent. or 50 per cent. of the boys go on to the land direct from school a very large number of them only take up agricultural work for lack of something better, and a large percentage of them leave at the first opportunity. Again, under present conditions of farming, at any rate in this part of England, the number of men employed is decreasing, and it is quite clear that a very considerable proportion of the boys leaving the elementary school cannot, if they wish it, go on to the land. There are also the girls who, as previously stated, seldom take up any form of agricultural work, so that any attempt to enforce theoretical or practical agricultural instruction on a school necessarily inflicts hardship on, or at least does not directly benefit, a very considerable proportion of the children.

There are a number of villages where the population which was formerly employed on the farms has not migrated to the town, but has obtained employment in industries other than agriculture, and consequently does not attach the slightest value to education with an agricultural bias.

Dr. Charles Crowther (Principal of the Harper Adams Agricultural College) at a discussion on rural schools held recently, said :

“ . . . the fundamental requirements of education were the same wherever a school might be situated, the only difference lay in the matter of presentation, which could be extremely varied

according to the locality. If a scheme of education were devised for country schools based on the assumption that every boy or girl was going to become a farm labourer or domestic servant, I would consider it a base betrayal of the children's interests."

It is as impossible to divide up children in elementary schools into categories based on their probable future employment as it is to divide them up on the basis of their religious convictions, or as it would have been in rural areas to give young persons the choice of continuation schools suggested by the 1918 Education Act.

All these are serious objections to the introduction of an agricultural bias, but it is by no means necessary that in rural schools the teaching of the essential subjects should be divorced from the everyday life and surroundings of the children, or that it should be lacking in practical instruction for boys or girls. On the contrary a good teacher will always seek to illustrate his teaching from the environment of the children and to interest them in local history and customs, but it must be remembered that however much he is in sympathy with rural life his pupils are directly faced with the solid economic fact that rural life offers less openings and less money than life elsewhere. It may be said that money is not the first consideration, but as things are it makes a very strong appeal to human nature. Until there is some readjustment of values as between town and country, it seems to me that the country will continue to supply towns with their best material whatever the elementary school may do, and it follows that many town dwellers will continue to be dependent on the rural schools for their elementary education. In other words, the sort of education given in the country will affect the town population.

A teacher in a country school is only too often faced with handicaps from which there appears to be no escape. The schools are generally small and isolated, many of them are structurally unsuitable, there are too many of them to allow of proper grading of pupils in each school, facilities for practical work are limited in most areas, there is a lack of interest on the part of managers and parents, and the schools themselves are sometimes regarded as a sort of parochial incubus or an obstacle in the way of the employment of children on the land.

A good teacher is too frequently in advance of his or her surroundings, and a bad teacher has many plausible reasons or excuses for failing to produce satisfactory results.

The teachers themselves have their own personal handicaps; in the first place, rural areas have almost without exception the lowest scale of salaries, and tend therefore not to attract the best teachers. I do not mean that there are not in rural schools some of the most effective and admirable teachers in the country, but the economic effect of higher remuneration elsewhere has on them, as on their pupils, a depressing and unsettling effect. Those who demand good results from the elementary schools should equally demand that their teachers should be paid accordingly.

The outlook of the rural teacher is apt to be limited through force of circumstances and his comparative isolation, and unless a teacher has in himself resources upon which he can draw, he will tend to become dispirited and mechanical, with deplorable results to the children. In this connection it is my experience that very little use is made of teachers' libraries.



The policy of maintaining a complete school in every village has probably at no time been fully justified on financial or educational grounds, though there are some examples of remarkably successful small schools where the teacher has been of exceptional ability. In rural districts the number of small schools is responsible for the heavy burden of the education rates, which the farmer, even with his preferential rating, is the first to deplore, a burden which makes it difficult for local authorities to provide adequately paid staff and sufficient and suitable apparatus.

I am convinced that if the country child is to have the best opportunity, a grouping system is essential for the elder children, but no grouping system can be satisfactory which abolishes a large number of schools for younger children and leads to their conveyance to central schools. Changes of this kind can only be made slowly, and local custom cannot be hurried.

We have considered the main difficulties of the elementary rural school, and some of the criticisms made on the teaching and some of the troubles which confront the teachers, but nothing has been said about the scope and aims of the work generally. It is immaterial what label is given to the teaching of children, and very great improvements have been made in the methods adopted for the instruction of infants and juniors. The most difficult problem is that of the children between the ages of eleven and fourteen, and I believe there is a very great deal of vagueness as to what the school is intended to do for them. This does not concern the method, or in a sense the subjects taught, but rather the general standard of attainment, and the definition of this standard seems to be one of the most important problems at the present time. It is, I think, quite clear that in dealing with children whose formal education will cease at fourteen and who are taught under the conditions prevailing in most rural schools, it is quite impossible to produce anything resembling a finished product. All that can be done is to give the children a foundation on which they can build, and this foundation must not be confined to mere book-work, but it must be practical, it must be character building, it must lead to adaptability of mind and body, and it cannot prepare specifically for any one vocation or type of vocation.

An informal committee, including teachers of elementary or secondary schools, agricultural employers and workers, education and agriculture officers, and persons engaged in university or training college work, with others of long experience in rural matters, has been engaged for some time in considering the relations of the rural schools to the countryside. This committee has made suggestions for a scheme of work for rural schools for elder children which they believe will overcome many of the difficulties of the present position, but at the present stage it would be premature to say more than that the scheme attempts to indicate suitable standards of attainment of children of eleven to fourteen, aims at a simplification of the curriculum rather by allowing the teachers much greater latitude as regards the time-table and syllabus than is at present prevalent. It does not eliminate any subject essential to a sound general preparatory education, but, while avoiding any attempt at vocational teaching or practical agriculture, emphasizes the environmental and practical side of teaching both for boys and girls. The scheme in its present form is

intended to give full educational effect to the grouping scheme for elder children and lays great stress on the necessity for a close connection between the senior and the contributory schools, and on the importance of the corporate and social side of school life. Experiments on the lines of this committee's report are to be made in Oxfordshire schools.

### TRAINING OF TEACHERS.

I have the greatest diffidence in touching upon the very difficult question of the training of rural teachers, partly because I have no first-hand knowledge of training colleges, and partly because of the constantly varying personal factor which is likely to upset the most carefully laid plans for the training of candidates. It is, however, quite clear to me that the rural schools require a standard of qualification for their teachers every bit as high as that of town schools, and that training in method is just as important in the one school as in the other. The average rural teacher has a more difficult job than the average town teacher.

Proposals have been made that special training colleges should be set apart for teachers who intend to serve in rural schools, and I cannot think of anything more fatal to the improvement of the rural school. It is unfair to any intending teacher to ask him to pledge himself to serve exclusively, or principally, in a rural school under conditions which are difficult, and are distinguished by a salary lower than that paid in any other part of the country. Apart from a few enthusiasts, with a rural bias complex, the general bulk of applications for such a training college would inevitably be somewhat second rate, and the problem would arise as to the lines upon which the training college would work. This would presumably be solved by specializing in some form of rural bias, and the result would be an attempt to give in rural schools a kind of watered-down scientific agricultural teaching to pupils, many of whom would leave the countryside at the first opportunity, while the remainder would have little or no chance of making use of any smattering of agriculture which they picked up.

There are many people who deprecate the existence of training colleges apart from universities, and the segregation of rural teachers into a particular kind of training college would still further limit their outlook and their efficiency. I am inclined to think that far more attention should be paid in training colleges to the educational value of what is known as "Practical Instruction," particularly in its relation to the rest of the work of the school, and in proportion as candidates for the teaching profession tend to be drawn from secondary schools more attention should be paid in these schools to practical work. In too many secondary schools to-day practical work is neglected or treated as a semi-optional hobby.

At the present time a good many people are being asked to consider how far it is desirable to recruit for the teaching profession through a system of rural pupil teachers. It seems to me that, at the best, this method of entry is a make-shift intended to meet hard cases, and to give a chance to those people who were either out of reach of a secondary school,



or who were, for some reason or another, not in a position to enter such a school at the usual age. Apart from exceptional cases, the rural pupil teacher cannot expect anything like the assistance in his own education or training which is available under any other system, and if he starts with that kind of intellectual drawback he has got to work out his own salvation in the face of much greater odds. I think that the rural pupil teacher system has been responsible to a great extent for the narrowness of outlook of many country teachers to-day. There are teachers who have started as pupils in the school, have drifted on as pupil teachers, possibly as supplementary or uncertificated teachers, and often, if they have obtained their certificate, have lived and worked throughout their lives in an unchanged atmosphere and routine. It is hardly reasonable to expect in such cases that they will be adaptable or likely to encourage individuality in their pupils, however conscientiously and ploddingly they carry out their work, and they tend to acquire an entirely undue regard for time tables and syllabuses which their more fortunate brethren do not allow to cramp their style.

Any training college which sets to work to meet the special difficulties of the rural teacher and of equipping him to deal with them could, I believe, do most valuable work, but I do not think the stage at which this could be undertaken is at the commencement of the teacher's life, but rather that those teachers who are actually employed in rural schools should have, and would appreciate, short courses of a "refresher" nature dealing with some of the more pressing problems in a rural school. Such courses would enable teachers living isolated lives to establish contacts with the outside world and to widen their outlook.

One of the chief obstacles to the progress of education in this country to-day is the fact that there are too many barriers in the educational world. There is not enough understanding between teachers in elementary, secondary, or technical schools, and if an additional cleavage is to be made in the elementary school world by an attempt to divide rural from other schools, progress will continue to be retarded.

The Departmental Committee on the Training of Rural Teachers are asking a great number of questions, and it may be worth while considering some of these.

They ask how far the syllabus for rural pupil teachers should differ from that of intending teachers from secondary schools; what practical subjects should be included in the syllabus, and how far the literary subjects should be adapted to environment, and whether a second language should be included. The trend of all these questions seems to indicate that the rural P.T. is either a person of inferior intelligence, or is expected to do inferior or less exacting work. I cannot refrain from saying that such an attitude will make the position of the rural schools even more difficult than it is at present. As far as practical subjects are concerned, it is rather a question of what should be excluded than what should be included and I do not think any teacher would be the worse for having a good knowledge of several practical subjects.

Another question asked is whether the new equivalent of the Preliminary Certificate Examination should be modified to suit the rural

P.T. Here again, we get the same sort of differentiation, and I think that the same answer is required.

The second part of the questionnaire deals with training college courses and we are asked if it is desirable to provide special courses for teachers interested in country life and occupations. If it is left at that, and the training colleges can find a way to make the provision, well and good, but if what is really intended is a separate kind of training college for a type of teacher who presumably starts as a rural P.T. it does not seem worth while pursuing the matter further.



# The Project Method of Teaching in a School for Natives in Central Africa.

BY W. B. MUMFORD.

AFTER an inspiring year under Professor Nunn at the London Day Training College, the writer in 1923 was appointed as a head master in charge of a boarding school for sons of native chiefs in Bukoba, Tanganyika Territory, Africa. He was at first at a loss how to apply the theories which he felt to be sound in such a novel situation. Subject matter and methods of the European conventional type were obviously unsuitable. This paper is an outline of his first experiments in the search for suitable subject-matter and suitable methods of teaching the material chosen.

## THE SELECTION OF SUBJECT MATTER.

Many noble-sounding phrases have been devised to sum up the aims of an educational system. One seems as good as another : all have faults. The one selected by the writer to guide him in organizing his school was—"to train the individual, firstly, to satisfy the economic needs of the community and, secondly, to develop his own peculiar powers in order that he may live as happy a life as possible." The problem was to determine along what lines did the community require that its youth be trained, and along what other individual lines should opportunities for training be provided.

Since Central Africa possesses considerable and peculiar agricultural and pastoral resources, the economic needs of the world will compel their development in the immediate future. The happiness of the African of to-morrow depends upon whether his training to-day intelligently anticipates these developments. If he is being trained in agriculture and animal husbandry, he will be able to meet the new demands and develop his own country. If he receives no such training he will always be liable to be exploited by others, European, Indian, or native, who have so prepared themselves. It was contended, therefore, that agriculture and animal husbandry should form the chief subjects in the native school curriculum.

Since time immemorial Africa has been split up into innumerable tribes, each with its own vernacular. By this multiplicity of languages Africa has been divided against herself and as a consequence has lost strength and progressed slowly. The second most important function of native schools was therefore claimed to be the development of indigenous concepts of "family" and "tribe" into the broader concept of citizenship, not only of the small tribe but of Africa as a whole. In this connection, too, a concept should be fostered of Africa as herself being a citizen nation in the world economic.

Elementary notions of hygiene and how to look after the sick, the gradual dispelling of superstition by general knowledge, particularly the protection and development of native handicrafts, and other similar subjects it was thought should take the third place in a native curriculum. Industry and commerce are perhaps of minor importance in the development of Africa. The so-called academic subjects therefore, the

three "R's," the teaching of English, and the general training of clerks and artisans, the writer relegated to the last place in his educational programme.

It may be noticed that the general principle suggested was one of looking towards the larger problems of Africa's place in the future economic world, rather than solving the more immediate problems of producing artisans and clerks to satisfy industrial, commercial and governmental demands. It was not suggested that training along the latter lines should be left out of an African educational scheme, but rather that it should have been relegated to a secondary place. There will never be any dearth of clerical and artisan aspirants; the native sees the European generally in an office chair or directing buildings, and so thinks "the white man is great; he is a clerk or an engineer: I want to be great, therefore I must be a clerk or an engineer." The part of the school is to help keep the balance of interest in the greater issues.

In brief, the subjects that the writer selected for teaching in his school, in order of importance, were agriculture, animal husbandry, citizenship, hygiene, native handicrafts, and the three "R's." Having decided on the subject matter the next problem to be considered was what method of teaching would most successfully meet the peculiar temperament of the African.

## ORGANIZING THE SCHOOL ON INDIGENOUS TRIBAL LINES.

In the writer's district there was a strong tribal organization of a feudal type; there were Sultans, great chiefs, and small chiefs with graded powers, the smaller chiefs paying homage to the greater and the latter in turn kneeling to the Sultan. In addition there was an old-established custom by which the Sultan periodically summoned to his court all the young men and banded them into a kind of school. The writer, therefore, divided his school into their blood-tribes, suggesting that they corresponded to the young men summoned for instruction in the olden days; then he sub-divided these tribes into smaller units and the boys chose their tribal chiefs\* and junior chiefs which corresponded to the Sultans and their feudal chiefs in their native world. The school was thus made a replica of native organization and founded directly on native tradition. Lessons in government and social organization learnt within the schools would be immediately applicable in their later life in the native world.

With this organization an attempt was made to form a self-governing school. At first, meetings of the chiefs were called, and the writer, as head master and Great Chief, consulted them on administrative problems. Ultimately the chiefs formed an Executive Council which passed its own rules and regulations, and consulted the head master only on difficult questions. This council drew up a list of the tribes and allotted to each in rotation a day on duty; the "tribes of the day" did all the

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\*It is interesting to note in passing that the leaders so chosen were in every case the nearest heirs to the true sultanate rather than the strongest member of the group as usually occurs in a European school, when boys are left to choose their own leaders. Whether this was due to a misunderstanding of the aims in view or whether it represents, as the writer thought, a characteristic difference of attitude between the unsophisticated native and the European, is of course controversial.



menial work around the school, such as washing the dishes, cleaning the school, sweeping paths, cutting the grass, etc. The Council instituted and governed the school "courts of justice" and appointed turn by turn each Sultan to sit as Judge for a week at a time, and a junior chief to act as court-clerk. This court sat every day at noon and heard all disputes and out-of-class offences.

It can easily be seen that with such an organization as a practical demonstration, ideas of citizenship (such as each boy playing his part in a tribe, each tribe playing its part in the school, and if one failed all the rest suffering) could be taught without very much formal class work. On such foundations it was easy to go further and evolve the ideas of an economic world and Africa playing her part. Examples were to hand every day. Each act of service was a parable.

By splitting up the tribes into larger and smaller tribes the maximum number of "chiefs" could be trained in administration. The whole system could be developed on directly parallel lines to the general British method of indirect rule. By forming a school treasury and paying into it a portion of the fees for food and upkeep, and by showing the Council how to lay out such sums, a direct counterpart to the native treasuries was able to be developed and sensible ideas of banking and the financial aspect of government could be inoculated into the minds of the population.\* With such practical demonstrations, arithmetic lessons became worth while in the eyes of the pupils.

### THE PROJECT METHOD OF TEACHING AGRICULTURE, ANIMAL HUSBANDRY, AND HYGIENE.

Following the educational principle "learning by doing" each tribe became "special investigator" for the school in one or the other branch of learning, and by practical experiment tried out old native "ways" and new European "ways," compared the results, and reported their "findings" to the school. The tribe specializing in agriculture planted side by side native seeds and European selected seeds, half of each area being planted in a European manner and half in the native manner. The chief of the tribe made periodic reports to the school assembled in "conference" when methods and results were discussed in detail. The tribe specializing in animal husbandry had a herd of cattle; they measured the milk output of each cow, planted new food stuffs, tried special feeding and measured the milk returns again. They also visited the "dipping tanks," learnt how to look after the bodies and health of their cattle, and so on. Their chief, too, was to make periodic reports to the school assembled in conference. A third tribe specialized in research in hygiene; they spent their time at the hospital or going rounds of inspection with the sanitation officers and so on. They, too, were to report their "findings" to the school. A fourth specialized in the preservation of native handicrafts; they were to give exhibitions and ceremonial displays to the whole school.

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\*It is not unknown for natives to believe that administrative officers collect Government taxes for personal profit and in order that they may proceed on leave to Europe and have a "good time."

By making the agriculturists responsible for the food supply, and the animal husbandry investigators responsible for the milk and meat supplies for the school, the hygiene workers for the health and sanitation of the school, and the handicraftsmen responsible for amusements and supply of drums, ornaments, etc., the whole system could be placed upon an essentially economic basis, and the lessons in agriculture, animal husbandry, hygiene, and the preservation of native handicrafts and traditions, could be bound up in wider lessons of citizenship.

By an arrangement under which the tribes changed their interests in rotation year by year, each boy could benefit by the specializing for one year, and in his last year could choose which was to be his dominant preparation for after life. By instigating a public method of displaying results of investigation the scheme could be made definitely progressive and in a very real sense could become "research."

Thus in each of the chief subjects of the curriculum, courses were organized without any formal classes of the European type. Examinations compelled the inclusion, however, of the teaching of English, the three "R's," etc.; these were taught in conventional classes. Every effort was made to correlate them with everyday life and thus make them as interesting as possible, and the time allotted was cut down to the morning sessions only. It was felt, however, that they could be cut down still more, to perhaps five half-hour periods per day, occupying a portion only of the morning and the evenings after dusk.

In conclusion, it must be stated that the above outline is an idealistic picture, and matters did not always turn out as successfully as pictured in this paper. On more than one occasion, for example, seeds planted in a European fashion did not even sprout: they had probably been eaten by ants. The scheme is full of deficiencies and mistakes. It was not sufficiently thought over and matured: it lacked the essential foundations of an intimate knowledge of native life. It has been growing, however, and will one day, the writer hopes, prove to be a definite contribution in the development of an African educational system.



# An Attempt to Measure the Strength of Instincts.

R. D. COLLMAN AND C. R. McRAE.

## INTRODUCTION.

While intelligence is being measured with increasing accuracy, the measurement of the other side of mind, of temperament and of character, still lags far behind. Yet the problem is one of very great importance. Its importance is indicated very clearly in the most recent manual on mental tests which we have seen.

"An attempt to explain the discrepancy between intelligence and achievement in individual cases frequently brings convincing evidence that this discrepancy is due to some characteristic of the individual's temperament rather than to his intellectual capacity. A complete measurement of the factors in school work, or in achievement in general, must include other traits beside intelligence."\*

Further on, after giving a brief description and criticism of various attempts that have been made to measure the more elusive aspects of mind, the writer adds :

"The tests in the field of non-intellectual attitude and functions are still chiefly in the realm of experimental development."† Elsewhere we read : "In assessing temperament and character, therefore, we are bound to fall back upon the method of observation in place of the method of experiment."‡

The present paper is the record of an attempt made to escape from the risky method of observation.

H. T. Moore has outlined an experimental method of testing the strength of instincts.§ The scheme outlined was a variation of the association method. Moore suggested the use of a number of stimulus-words calculated to make an appeal to the various instincts, for example : insult, death, power. The subject was to be requested to interpret each stimulus as a situation involving him personally, and to respond with a verb.

"Instructions are now impressed upon him to the effect that in what follows he is to interpret each stimulus as representative of a situation in which he is personally concerned, and that his reaction verb is to indicate an action in which he involves himself personally."

Moore's assumption was that, if the instinct were strong, the individual would react quickly, and in a way to indicate strength. In each case the score was to be content plus speed. For example, if a response suggested emotion, it was to be given a score of 12. A colourless response not suggestive of emotion was to be given a score of 0. If pugnacity responses, for example, were given at one-half normal speed, the pugnacity score was to be multiplied by two. In all cases, introspections were to be obtained, and care taken throughout that the activity suggested by the

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\*Freeman. "Mental Tests," page 191.

†Ibidem, page 224.

‡Board of Education Report. "Psychological Tests of Educable Capacity," page 59.

§*Am. J. Psych.*, Vol. 27.

response was the subject's own activity, and that the reaction was not due to chance associations. It was anticipated that the method would give some indication of the relative strength of the various instincts, the raw material of personality. We have seen no account of results obtained by the use of Moore's method.

#### THE PRESENT EXPERIMENT—APPARATUS AND METHOD.

There seemed nevertheless to be very definite possibilities in Moore's approach to this difficult problem, and it was decided by the writers to carry out an experiment along very similar lines, with the important addition that the subjects, in giving their responses, were placed in a psycho-galvanic arc apparatus. The deflections of the galvanometer thus afforded an additional criterion.

Table I gives a list of the stimulus-words used, along with the instincts to which it was thought they would appeal. (The words are taken for the most part from Moore. His list included the constructive instinct, and did not include the mating instinct. Among other more trifling alterations which were thought to be improvements, we omitted the constructive instinct and added some words calculated to appeal to the mating instinct.)

TABLE I.  
LIST OF STIMULUS-WORDS.

|                                  |                                       |
|----------------------------------|---------------------------------------|
| Instinct of Combat .....         | Enemy, insult, attacked, battle.      |
| Instinct of Escape .....         | Danger, death, snake, murder.         |
| Instinct of Revulsion .....      | Stench, putrid, sores, slimy.         |
| Instinct of Curiosity .....      | News, strange, novelty, puzzle.       |
| Instinct of Self-Assertion ..... | Career, success, power, triumph.      |
| Instinct of Self-Abasement ..... | Shame, remorse, disgrace, guilt.      |
| The Protective Instinct .....    | Mother, home, family, sister.         |
| The Gregarious Instinct .....    | Crowd, alone, friends, strangers.     |
| The Acquisitive Instinct .....   | Wealth, property, possessions, money. |
| The Mating Instinct .....        | Girl, kiss, wife, love.               |

The subject was fitted into the psycho-galvanic arc apparatus, and it was then explained to him precisely what he was asked to do, i.e., to interpret each stimulus-word as a situation involving him, and to respond with a verb, each verb indicating an action which involved him personally, and representing his personal attitude towards the situation. He was requested to make the procedure as automatic as possible ; to get a mental set towards responding in the desired way.

Before the experiment proper was begun, five more or less colourless words were given, namely, " window," " fly," " knife," " kitten," and " door," with the object of accustoming the individual to the method. It was found that after the first two or three practice words, the subjects had no difficulty in understanding what was required, and in doing it.

For the purposes of this experiment the stimulus-words were always given in the one order. Beginning with the first " combat " word, namely, " enemy," we gave all the first words for the various instincts, then all the second words, and so on. For each response the reaction time and



introspection were taken, as well as the deflection of the galvanometer. Information was thus derived from four sources, namely, the response to the stimulus-word, the reaction time, the introspection and the deflection of the galvanometer.

In addition, three copies of a questionnaire were handed to each subject, one to be filled in by the subject himself, the others by two people well acquainted with him. The method of filling in a rating scale was carefully explained, and it was hoped that this rating scale would afford a tolerably accurate criterion whereby to judge the efficiency of our experimental method. Every effort was made to render this personal estimate as accurate as possible. That our hopes in this direction were far from being realized will be manifest presently. The questionnaire is shown below.

### QUESTIONNAIRE.

|      |                                                            |          |          |          |
|------|------------------------------------------------------------|----------|----------|----------|
| (1)  | Is his anger easily aroused ? .....                        | <i>a</i> | <i>b</i> | <i>c</i> |
| (2)  | Is he confident in himself ? .....                         | <i>a</i> | <i>b</i> | <i>c</i> |
| (3)  | Is he fastidious about his food and surroundings ? ....    | <i>a</i> | <i>b</i> | <i>c</i> |
| (4)  | Is he interested in general affairs ? .....                | <i>a</i> | <i>b</i> | <i>c</i> |
| (5)  | Does he enjoy competitive work and play ? .....            | <i>a</i> | <i>b</i> | <i>c</i> |
| (6)  | Is he hesitant in expressing his opinion ? .....           | <i>a</i> | <i>b</i> | <i>c</i> |
| (7)  | Is he tender-hearted ? .....                               | <i>a</i> | <i>b</i> | <i>c</i> |
| (8)  | Is he a good " mixer " ? .....                             | <i>a</i> | <i>b</i> | <i>c</i> |
| (9)  | Is he careful with money ? .....                           | <i>a</i> | <i>b</i> | <i>c</i> |
| (10) | Is he fond of the company of ladies ? .....                | <i>a</i> | <i>b</i> | <i>c</i> |
| (11) | Is his anger of long duration ? .....                      | <i>a</i> | <i>b</i> | <i>c</i> |
| (12) | Is he timorous ? .....                                     | <i>a</i> | <i>b</i> | <i>c</i> |
| (13) | Is he easily disgusted, e.g., by doubtful tales ? .....    | <i>a</i> | <i>b</i> | <i>c</i> |
| (14) | Is he interested in his work ? .....                       | <i>a</i> | <i>b</i> | <i>c</i> |
| (15) | Has he a reputation for being stubborn ? .....             | <i>a</i> | <i>b</i> | <i>c</i> |
| (16) | Does he think he is inferior ? .....                       | <i>a</i> | <i>b</i> | <i>c</i> |
| (17) | Is he easily moved by a creature in distress ? .....       | <i>a</i> | <i>b</i> | <i>c</i> |
| (18) | Is he popular ? .....                                      | <i>a</i> | <i>b</i> | <i>c</i> |
| (19) | Is he anxious to make good money ? .....                   | <i>a</i> | <i>b</i> | <i>c</i> |
| (20) | Is he patient in the face of opposition ? .....            | <i>a</i> | <i>b</i> | <i>c</i> |
| (21) | Is he nervous in the presence of critics ? .....           | <i>a</i> | <i>b</i> | <i>c</i> |
| (22) | Does he object to people who toady, carry tales, etc. ? .. | <i>a</i> | <i>b</i> | <i>c</i> |
| (23) | Is he of an enquiring turn of mind ? .....                 | <i>a</i> | <i>b</i> | <i>c</i> |
| (24) | In a group, is his behaviour assertive ? .....             | <i>a</i> | <i>b</i> | <i>c</i> |
| (25) | Does he tend to follow the example of others ? .....       | <i>a</i> | <i>b</i> | <i>c</i> |
| (26) | Is he fond of children, pets, etc. ? .....                 | <i>a</i> | <i>b</i> | <i>c</i> |
| (27) | Is he in the habit of spending time alone ? .....          | <i>a</i> | <i>b</i> | <i>c</i> |
| (28) | Is he jealous of his belongings ? .....                    | <i>a</i> | <i>b</i> | <i>c</i> |

In each case the person making the estimate was required to underline *a*, *b*, or *c*; *a* representing "considerably more than ordinary," *b* "ordinary," and *c* "considerably less than ordinary." A glance at the questions will reveal the fact that correct answers to them would afford valuable information concerning the ten instincts with which we are here concerned.

SUBJECTS.

The subjects were forty-two students in training at a Teachers' College, and three lecturers from the staff of the same college. They were all men. Concerning only thirty of these we received back the three questionnaires fully filled in.

RESULTS OBTAINED FROM THE PSYCHO-GALVANIC ARC APPARATUS.

The interest in the present report lies mainly in the use of the psychogalvanic arc apparatus as a method of measuring the raw material of character. It has been shown that, in the presence of an emotion, there is a decrease in the bodily resistance to an electrical current. (Some authorities suggest that deflections shown by the galvanometer may be due not to a decrease of resistance but to electro-motive force changes. The cause matters little enough for our present purposes ; we believe, however, that the experimental evidence points to a decrease of bodily resistance.) In any use of the psychogalvanic arc apparatus for our present purpose, it must be assumed not only that there is such a decrease of resistance, but also that the decrease is proportional to the strength of the emotion and may be taken as an indication of that emotion strength. The main object of the present report is to indicate whether this second assumption can be made. For the present therefore our attention will be restricted almost entirely to the deflections of the galvanometer, and little or no account will be taken of the responses, reaction times, and introspections. We will return later to offer some little criticism of the method as outlined by Moore.

Table II gives the median deflections for each word over all the subjects, the deflections of the galvanometer being measured by means of the movement of a spot of light over a metric scale suitably arranged.

TABLE II.

|                    |                     |                     |                     |
|--------------------|---------------------|---------------------|---------------------|
| Girl . . . . . 263 | Remorse .. 123      | Wealth .... 112     | Family . . . . . 95 |
| Kiss . . . . . 262 | Crowd .... 122      | Disgrace .... 109   | Property .... 95    |
| Wife . . . . . 222 | Murder .... 122     | Success .... 107    | Triumph .... 94     |
| Mother .... 169    | Strange .... 122    | Sores . . . . . 103 | Possessions .. 94   |
| Shame .... 153     | News . . . . . 118  | Novelty .... 102    | Money . . . . . 91  |
| Enemy .... 153     | Insult .... 116     | Attacked.... 100    | Sister..... 87      |
| Death .... 140     | Putrid .... 115     | Danger .... 99      | Strangers .... 86   |
| Love . . . . . 136 | Home .... 115       | Friends .... 98     | Puzzle . . . . . 83 |
| Career..... 134    | Alone . . . . . 113 | Power .... 98       | Battle . . . . . 71 |
| Stench .... 128    | Snake . . . . . 112 | Guilt . . . . . 98  | Slimy..... 67       |

We have no evidence that this order is the true order of strength of appeal, since of necessity, the stimulus-words were always given in the one order, and it is highly probable that the words given towards the end of the experiment did not make the appeal they might have made if given earlier. However, through the arrangement of the words already mentioned, whereby the first words for all the instincts were presented before the second word for any of them, it is possible to calculate which group of four words produced the largest deflection.



From the table above there was calculated the median deflection for all the words over the whole series of words and of individuals, also the average deflection for each group of four words appealing to the various instincts. The two results were expressed as a ratio, i.e. :

AVERAGE DEFLECTION FOR THE INSTINCT  
AVERAGE DEFLECTION FOR THE WHOLE SERIES.

In this way it was possible to express as a decimal the relative strength of the various instincts in the mythical person who is the average man in our group. These figures are shown in Table III.

TABLE III.  
THE RELATIVE STRENGTH OF INSTINCTS IN THE AVERAGE INDIVIDUAL.

|                 |     |                   |      |
|-----------------|-----|-------------------|------|
| Combat .....    | .91 | Abasement .....   | 1.0  |
| Escape .....    | .98 | Protective.....   | .97  |
| Revulsion ..... | .85 | Gregarious .....  | .87  |
| Curiosity ..... | .88 | Acquisitive ..... | .81  |
| Assertion.....  | .90 | Mating .....      | 1.83 |

In brief, if this method has any value, the mythical person who is the average man of these college students has a mating instinct which is about twice as strong as any other instinct, while his other instincts, with the exception perhaps of his acquisitive instinct, which is rather weak, do not vary greatly in strength. More grist for the Freudian mill. This conclusion presupposes of course that the words "stench," "putrid," "sores," and "slimy," for example, make an appeal to the instinct of revulsion which is as strong as the appeal made to the mating instinct by the four words "girl," "kiss," "wife," and "love," a presupposition which is by no means proved. However, in our main objective we have made no such presupposition.

Having, by the method outlined above, arrived at an estimate of the relative strength of the various instincts in a mythical average person, it remained to arrive at a similar estimate of relative strength for each individual, whereafter it would be possible to compare each individual with the average person. The procedure was naturally a very similar one. For each individual there was calculated the average deflection over all the words, and the average deflection for each instinct. Again, the results were expressed as a ratio, i.e. :

AVERAGE DEFLECTION FOR THE INSTINCT  
AVERAGE DEFLECTION FOR THE WHOLE SERIES.

In the decision as to whether any particular individual would receive a high mark for revulsion, say, the standard of reference was the individual himself. His own deflection for the "revulsion" words were compared with his own deflections over the whole series of words. Thus an individual might well receive a high mark for revulsion, although his actual deflections for "revulsion" words were smaller than the deflections of other people for those same words, for the simple reason that all his deflections

were rather small. This method of using the individual himself as the standard of reference did away with the necessity of making corrections for individual differences in texture of the skin, moisture of the hands, and the like.

The percentages thus obtained for each individual were then compared with the figures of the mythical average person, and an arbitrary value was attached to each instinct in each individual. If the percentage for any particular instinct in an individual were 15 per cent. or more higher than the percentage for that same instinct in the average person, then to that instinct in the individual was assigned the value 5. It will be remembered that the figure for "combat" in the average person is .91. If the figure for "combat" in an individual was 1.05 or higher, the value 5 was assigned. If the figure was more than 7 per cent. higher, but less than 15 per cent., the value assigned was 4; if the figure was within 7 per cent. higher or lower, the value was 3; if between 7 per cent. and 15 per cent. lower, 2; and if the figure was 15 per cent. or more lower than the figure for the average person, the value assigned was 1. So to each instinct in each person there was attached a value ranging from 5 to 1, and this value summarized the deflections of the galvanometer.

It was desired to compare with these values the results according to the questionnaire. But any such comparison introduced at once a very definite error. In the filling in of the questionnaire, the individual was compared with the other individuals, whereas in our use of the psychogalvanic arc method all that was obtained was a measure of the relative strength of the instincts within the individual himself. To be sure we did afterwards compare these relative strengths with those of an average individual, but at no stage did we have a measure of actual strength. It is quite likely, for example, that, in an individual whose instincts were all over-strong, an emotionally unstable person, the instinct of combat might have been of more than ordinary strength, and been estimated as such in the questionnaire, and yet it might have appeared as relatively weak according to our psycho-galvanic arc method, simply because it was weaker, say, than the instincts of self-abasement and of escape.

The only way of avoiding this difficulty would have been to ask the friends to rate the ten instincts in order of strength in the individual. It did not occur to us to do this, nor indeed does it occur to us now to lament the fact. For to have asked this would have been to demand from acquaintances an impossible degree of psychological insight. For one untrained in psychological methods it is fairly possible to state of a friend that, for example, his behaviour in a group is more than ordinarily assertive, but to rank his instincts in order of strength is a sheer impossibility.

All that we could do then was to recognize that a very definite error was here introduced, and to leave it at that.

It was noted above that we made use of a scale ranging from 5 to 1 in order to summarize the results of the psycho-galvanic arc method, and to attach a value to each instinct in each individual.

The same scale, 5 to 1, was applied to the questionnaire results. On the questionnaire there were, for each instinct except the mating instinct, three questions, to be marked *a*, *b*, or *c*, and to be marked by three persons. In order to attach a numerical value to the results, the following procedure



was adopted. Where the letters underlined were *a*'s and *b*'s, and mostly *a*'s, the value 5 was assigned ; where the letters were *a*'s and *b*'s, and mostly *b*'s, 4 ; where they were nearly all *b*'s, with perhaps an *a* and a *c*, 3 ; where they were *b*'s and *c*'s, mostly *b*'s, 2 ; and where they were *b*'s and *c*'s, mostly *c*'s, 1. The method was clumsy and it could not be rigidly applied, but it proved quite workable. An illustration may help.

CASE 12.

| <i>Instinct.</i> | <i>Average deflection for instinct.</i> | <i>Value.</i> | <i>Questionnaire.</i>                                                           | <i>Value.</i> |
|------------------|-----------------------------------------|---------------|---------------------------------------------------------------------------------|---------------|
|                  | <i>Average deflection for series.</i>   |               |                                                                                 |               |
| Combat .....     | .40                                     | 1             | *(1) <i>b c c</i><br>(11) <i>c c c</i>                                          | 1             |
| Escape.....      | 1.0                                     | 3             | (20) <i>a b a</i><br>(2) <i>b b a</i>                                           | 2             |
| Revulsion ....   | .82                                     | 3             | (12) <i>b b c</i><br>(21) <i>a b c</i>                                          | 3             |
| Curiosity ....   | 1.12                                    | 5             | (3) <i>c a a</i><br>(13) <i>b b c</i><br>(22) <i>a a a</i>                      | 5             |
| Assertion ....   | .93                                     | 3             | (4) <i>b a a</i><br>(14) <i>b b a</i><br>(23) <i>a a b</i>                      | 3             |
| Abasement ....   | 1.08                                    | 4             | (5) <i>a a a</i><br>(15) <i>b a c</i><br>(24) <i>c b c</i>                      | 3             |
| Protective ....  | .87                                     | 2             | (6) <i>c c a</i><br>(16) <i>b b c</i><br>(25) <i>b b a</i>                      | 5             |
| Gregarious ....  | 1.03                                    | 5             | (7) <i>a b c</i><br>(17) <i>a a a</i><br>(26) <i>a a a</i>                      | 4             |
| Acquisitive .... | .78                                     | 3             | (8) <i>c a a</i><br>(18) <i>a b a</i><br>(27) <i>b b b</i>                      | 5             |
| Mating .....     | 2.20                                    | 5             | (9) <i>a a a</i><br>(19) <i>a a a</i><br>(28) <i>a b b</i><br>(10) <i>a a a</i> | 5             |

\*The numbers in brackets under the heading "Questionnaire" refer to the various questions in the rating scale. (See the rating scale above.) Thus in this case the three answers to question (1), "Is his anger easily aroused?", were *b*, *c*, and *c*, the inference being that his anger is not easily aroused. The three answers to question (11), "Is his anger of long duration?", were *c*, *c*, and *c*, the inference being that his anger is certainly not of long duration. The three answers to question (20), "Is he patient in the face of opposition?", were *a*, *b*, and *a*, the inference being that he is very patient of opposition. It seems tolerably clear, then, that according to the questionnaire the value for "combat" should be 1.

When a table similar to the one above had been prepared for each case, it became necessary to obtain some measure of the relationship, if any, existing between the two estimates, namely, the estimate according to the psycho-galvanic arc method and the estimate according to the rating scale. There was calculated therefore a coefficient of contingency. The table of contingency is shown in Table IV.

TABLE IV.  
TABLE OF CONTINGENCY.

|        | 1         | 2         | 3         | 4         | 5         | Totals     |
|--------|-----------|-----------|-----------|-----------|-----------|------------|
| 1      | <b>16</b> | 8         | 20        | 23        | 10        | <b>*77</b> |
| 2      | 2         | <b>11</b> | 7         | 18        | 2         | <b>*40</b> |
| 3      | 1         | 12        | <b>28</b> | 17        | 5         | <b>*63</b> |
| 4      | 1         | 8         | 10        | <b>15</b> | 5         | <b>*39</b> |
| 5      | 2         | 11        | 19        | 21        | <b>28</b> | <b>*81</b> |
| Totals | †22       | †50       | †84       | †94       | †50       | 300        |

\*Rated 1, 2, 3, 4, or 5 by psycho-galvanic arc method.  
†Rated 1, 2, 3, 4, or 5 by the questionnaire.

Then  $C = \sqrt{\frac{S-N}{S}} = .43$       P.E. = .05.

There is, then, a low but significant degree of correlation between the two estimates.

The coefficient of contingency here found is too low to permit of the method being used for any very definite and practical purposes. Nevertheless, the coefficient is sufficiently high to be significant, and we know of no other experimental and objective method of measuring this more elusive side of mind which will give so positive a result. Moreover if, as appears certain, there is a positive correlation between the two measures, then any weaknesses in our procedure would tend to make the manifest degree of correlation lower than it should actually be. We can point to two such weaknesses whose effect would be serious, but over which our method of procedure allowed us no control. One is the differing standards of reference in the cases of the two criteria, already referred to. The other consists of certain gross errors made by the people to whom was entrusted the task of furnishing a personal estimate by means of the rating scale.

These errors may be readily understood by a glance at Table V, which gives, for each instinct, the number of times it was rated "strong" on the rating scale, and the number of times it was rated "weak."

TABLE V.

| Instinct .....    | Rated strong, i.e., 4 or 5 | Rated weak, i.e., 1 or 2 |
|-------------------|----------------------------|--------------------------|
| Combat .....      | 3 times                    | 16 times                 |
| Escape .....      | 3    "                     | 16    "                  |
| Revulsion .....   | 20    "                    | 2    "                   |
| Curiosity .....   | 27    "                    | 3    "                   |
| Assertion .....   | 7    "                     | 11    "                  |
| Abasement .....   | 4    "                     | 16    "                  |
| Protective .....  | 23    "                    | 0    "                   |
| Gregarious .....  | 19    "                    | 2    "                   |
| Acquisitive ..... | 16    "                    | 4    "                   |
| Mating .....      | 19    "                    | 3    "                   |



In brief, there were a number of gross errors of over and under-estimation. To sum up, there was a strong tendency on the part of the estimators to over-rate the instincts of revulsion, curiosity, protection, gregariousness, acquisition, and sex, and to under-rate the instincts of combat, escape, and abasement. In most cases the tendency was comprehensible ; the same human weakness, the desire to paint a pleasant picture, renders testimonials of such doubtful value. But in the present case this amiable weakness is very much to be lamented ; there is no doubt but that it is in large measure responsible for the lowness of our coefficient of contingency. This is sufficiently evidenced by the following facts. Since the instincts of combat, escape, and abasement are in general very much under-estimated, wherever they are estimated as strong they should appear as strong according to the psycho-galvanic arc method. They do so appear in eight out of ten cases. And since the instincts of revulsion, curiosity, protection, gregariousness, acquisition, and sex are in general very much over-estimated, whenever they are estimated as weak they should appear as weak according to the psycho-galvanic arc method. They do so appear in twelve out of fourteen cases.

We may then complete this section with the conclusion that, if the use of the psycho-galvanic arc apparatus does not offer a method of measuring the strength of instincts which is immediately serviceable in practice, the method is probably more accurate than any other objective method so far invented, and quite sufficiently accurate to warrant further experimentation.

RESULTS OBTAINED BY USING MOORE'S METHOD.

It remains to pay some attention to the results obtained by using Moore's method, that is, by considering the actual responses to the stimulus words, and the reaction times, which so far we have neglected with what may seem to be scant justification. Yet in fact it would appear that we were fairly justified in neglecting the responses at least. For with few exceptions the responses to each stimulus word were monotonously alike, so alike in fact as to permit us to assume, as we did assume, that almost always the word appealed to the same innate tendency.

Table VI gives some random examples of stimulus words and of the whole range of reactions to these stimulus words.

TABLE VI.  
EXAMPLES OF REACTION VERBS.

| <i>Stimulus Word.</i> | <i>Reactions received.</i>                                                     |
|-----------------------|--------------------------------------------------------------------------------|
| Enemy .....           | Fight, hate, kill, hit, defend, attack, outwit, destroy, punch, respect, love. |
| Stench .....          | Smell, hate, dislike, get rid, avoid, purify.                                  |
| Novelty .....         | See, enquire, enjoy, buy, like, seek, wonder, want, read.                      |
| Career .....          | Make, attain, hope, want, work, struggle, form, gallop, study.                 |
| Home .....            | Go, love, have, see, enjoy, like, make.                                        |
| Girl.....             | Love, respect, admire, like, pirate, walk, kiss, get, cuddle, detest.          |

It will be seen by a glance at the table that the responses were indeed monotonously alike. Moreover, the introspections revealed that such exceptions as "enemy"—"love" were due to chance associations rather than to any present emotion, and that such finer differences as that between "destroy" and "hit" were probably attributable to intellectual rather than emotional causes.

Moore suggested, it will be remembered, that in attaching a numerical value to a reaction 12 should be allotted to any response which appeared to be emotionally caused, and 0 to any colourless response. We consider that if we were allotting marks to the reactions, almost every reaction would have to be awarded the same mark, and that the maximum.

But it was not Moore's intention to rely on the response alone—the score, be it remembered, was to be for content plus speed.

If a reaction was given at one-half normal speed, it was to receive double weight.

We have worked out a number of our cases following this method, and have correlated the results with the deflections of the galvanometer. The coefficients of correlation thus obtained ranged from slightly negative ones to  $r=.35$  (P.E.=.09).

Generally speaking, there is a slight but scarcely significant measure of agreement between the two criteria. Small reaction times do show a tendency to be associated with large deflections of the galvanometer. This is evidenced by Table VII, which ranks the various instincts according to the speed of reaction and to the size of the deflections of the galvanometer.

TABLE VII.

| <i>Instinct.</i>  | <i>Rank according to<br/>speed of reaction.</i> | <i>Rank according to<br/>size of deflections.</i> |
|-------------------|-------------------------------------------------|---------------------------------------------------|
| Escape .....      | 1                                               | 3                                                 |
| Protective.....   | 2                                               | 4                                                 |
| Combat .....      | 3                                               | 5                                                 |
| Acquisitive ..... | 4                                               | 10                                                |
| Curiosity .....   | 5                                               | 7                                                 |
| Assertion .....   | 6                                               | 6                                                 |
| Gregarious .....  | 7                                               | 8                                                 |
| Mating .....      | 8                                               | 1                                                 |
| Revulsion .....   | 9                                               | 9                                                 |
| Abasement .....   | 10                                              | 2                                                 |

In the table above two instincts, namely, the mating instinct and the instinct of self-abasement, spoil what would otherwise be quite a definite agreement. Generally speaking, small reaction times do tend to be associated with large deflections, and if certain other factors could be controlled, the length of the reaction time would be very significant. But there are other uncontrollable factors which render the reaction time almost useless as a criterion. Reaction times are seriously affected by intellectual factors. Very often after a long reaction time the introspection was something to this effect:—"I had the idea long before I spoke—I could not think of the right word."



Further, as everyone knows who has carried out any association experiments, long reaction times are quite as emotionally significant as short ones, and quite often, instead of lowering the score for a long reaction time, as Moore would have us do, we should rather raise it.

In short, we conclude that, for these various intellectual and emotional reasons, very little weight can be attached to the responses and the reaction times, and that Moore would receive few results of value from the experiment as he designed it.

## SUMMARY AND CONCLUSIONS.

Objective tests of temperament and character are very urgently needed.

Moore suggested an objective method of testing the strength of instincts, the method being a variation of the association method and the stimulus words being words calculated to appeal to the various instincts. Moore's suggestion was that the score should be for content plus speed ; in other words, the more emotional the reaction was, and the shorter the reaction time, the greater was the value to be attached to the response.

On account of various emotional and intellectual complications, it would appear that when Moore's method alone is used no very valuable results are obtainable.

But when there was added to Moore's criteria a psycho-galvanic arc apparatus, and attention was restricted to the deflections of the galvanometer, a measure of the strength of instincts was obtained which showed a coefficient of contingency of .43 (P.E. .05) with results obtained from the use of a rating scale. This coefficient is low ; nevertheless, it is significant, and is probably higher than would be obtained by the use of any other objective method so far evolved.

Furthermore, the coefficient was undoubtedly lowered appreciably by certain weaknesses of the procedure which could probably be avoided in future experimentation.

## Should Children Learn Poems in "Wholes" or in "Parts"?\*

By E. W. SAWDON.

THERE is almost universal agreement among writers of books on educational psychology that experimental results and *a priori* reasoning show memorizing by "wholes" to be more effective than memorizing in sections. It is maintained that when the "whole" method is used a poem is not only more quickly learned, but, what is more important, is retained more completely.†

Nevertheless, it is at least doubtful if this belief in the efficacy of the "whole" method is shared by the rank and file of the teaching profession.

Moreover, there are two pieces of experimental evidence which have been put forward during the last three years in England which seem to justify the doubts of the teacher as to the value of the "whole" method. I refer to the work of Chas. Fox‡ and W. H. Winch.§

Most of the experimental work on the subject has been based on the assumption that it is possible to find different pieces of poetry which are of the same degree of difficulty for memorizing purposes. These pieces are then learned by the same person or persons by different methods. This is the plan adopted by Fox.

Winch, on the other hand, assumes that he can find different learners whose capacity for memorizing is equal, to whom can be given the same piece of poetry to be learned by different methods.

Fox's subjects (University graduates, twenty-four in number) were divided into two groups, each group learning two sonnets from Hardy's "She to Him," one by a combination of the "part" and "whole" method, the other by a pure "whole" method. Both immediate and delayed recall were tested by the method of prompting. In neither case was there any appreciable difference between the results. After the tests the subjects were asked which of the two sonnets learnt each preferred, and nineteen expressed a decided preference for one or the other. A further examination of the results showed (1) that the preferred sonnet had required considerably fewer prompts than the other, regardless of method adopted; (2) that those who had expressed a preference had learned both sonnets much more accurately than those who had not.

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\*Adapted from part of a thesis presented for the degree of M.A. in Education in Birmingham University, 1926.

†See Godfrey Thomson, "Instinct, Intelligence, and Character," p. 250.

C. W. Valentine, "Experimental Psychology and Education," pp. 136-9.

C. S. Myers, "Introduction to Experimental Psychology," p. 86.

S. S. Colvin, "The Learning Process," p. 160.

H. J. Watt, "Economy and Training of Memory," p. 49.

S. C. Parker, "Methods of Teaching in High Schools," p. 154f.

‡C. Fox, "The Influence of Subjective Preference on Memory," *Brit. Journal of Psychology*, Vol. XIII, Part 4.

§W. H. Winch, "Should Poems be Learnt by Children as 'Wholes' or in 'Parts'?" *Brit. Journal of Psychology*, Vol. XV, Part 1.



Fox maintains, as a result of these experiments, that it is not the method of memorizing which affects immediate memory, but rather subjective preference for what is learnt, and that any experimental evidence which does not take this into account must be rejected.

There are, however, two features in this experiment that call for comment, as they point to its results being somewhat less reliable than they seem.

(1) It is assumed that the four sonnets are of equal difficulty, owing to the rigidity of sonnet-construction and the fact that they have the same " colour " and deal with the same order of ideas. But can we ever assume without testing that two poems are of the same degree of difficulty? May not the very similarity of structure and of ideas, which Fox mentions as tending to make the poems of equal difficulty, have just the opposite tendency, to make the second easier to learn on account of increased familiarity with this structure and thought? (See page 187.)

(2) The preferences were asked for after the poems had been learnt. Is it not possible that the expressed preference is rather the result than the cause of one sonnet being learnt better than the other? May not the answers of the subjects have been influenced by the degree of ease with which the poems had been memorized or the relative annoyance caused by the need for prompting? Mary E. Matthews, in a paper contributed to this journal\*, remarks that the preferences of children are often affected by the relative ease with which they can be learnt. " Several," she says, " refer to the ease with which a poem can be learned as a recommendation, one adding further ' I also liked " In Search of a Hare " when I had learnt it.' " Another of her pupils said he liked " Horatius " because the verses were easy to learn. One of my own boys expressed a liking for " Eldorado " because " the lines being so short it is an easy poem to learn."†

While there is no doubt justification for the view that subjective preference (which is only another name for interest) should be taken into account wherever possible, yet in the statement that " where interest is aroused the method of learning is of far less importance than is usually supposed " it seems to be forgotten that the method of learning is an important factor in the *arousal* of interest. The " whole " method will certainly lead more easily to that integration or systematic organization of material in which the whole functions as one, which Fox sees to be equivalent to an increase of retentiveness, and therefore this method is to be preferred to the " part " method.‡

W. H. Winch avoided the difficulty of finding poems of equal degree of difficulty by using the same material for all his subjects. In each of his three experiments children were divided, after preliminary testing, into two equal, parallel, and highly co-ordinated groups, and then the

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\*Mary E. Matthews, " Some Sex Differences in the Appreciation of English Literature," FORUM OF EDUCATION, November, 1925.

†Since the above was written further confirmation has been provided in a paper, " Children's Appreciation of Poetry," contributed by Lynette Feasey to the *British Journal of Psychology*, July, 1927, which notes the fact that some children like a poem " because it is easy to learn," " because I can say it better than the others," " because it is easy to learn and there are no hard words."

‡C. Fox, " Educational Psychology," p. 161.

two groups were set to work by different methods to learn four short poems. One group learned by the "whole" method, the other group a line at a time.

The first experiment was done with a class of fifty girls in Standards V and VI B (average age, 11 years 7 months) in a fairly good London suburb. The number was, however, reduced to thirty-eight by absences. The results show a differential advantage in favour of the "part" method of 26 per cent. Winch concludes that school children of this age and mental development learn poetry more accurately and more rapidly by a "part" method than by a "whole" method.

Later two longer poems were memorized in the same way, but the results do not show the same marked superiority in favour of the "part" method.

There is one serious criticism to be brought against the conclusions of this experiment. The short time given for memorizing must have favoured the "part" method. Ten minutes only were allowed in the case of the short poems, and it is evident from the figures that no one can have gained full marks; it is indeed doubtful if the highest mark was more than 75 per cent. of the total. Now the "whole" method would show the best results when the poem was almost, if not quite, perfectly learnt. If the time allowed (as in this experiment) is enough only for a poem to be partly learnt, those who have made sure of a portion of it by the "part" method will have an advantage over those for whom the poem as a whole has not yet risen above the threshold of memory.

In the case of the longer poems this inadequacy of the time allowed to bring out the advantage of the "whole" method is more strongly marked. For the poem "Dora" the total number of words to be learnt was 452, while the average of the first five girls was no more than 187. No one can have been near perfection. The results of this experiment must therefore be received with some caution.

The second series of experiments was carried out in a boys' school with Standards VII, VI, and V (average age, 12 years 8½ months).

In this case twenty minutes were allowed for memorizing, but the poems were rather longer. The increase in time was, however, enough to bring the best boys somewhere near perfection, the average of the first four boys being about 87 per cent. of the maximum for the four final tests. The differential advantage for the "part" method, while still present, fell from the 26 per cent. shown in the first experiment to 13 per cent. in the case of the four shorter poems. With two long poems, however, the "whole" method produced better results. This was due chiefly to the marks of the four pairs of best boys, who showed results on the average 50 per cent. better for the "whole" method than for the "part" method, in the case of the very long poem, which also showed an advantage for the "whole" method for the whole class. The marks for the second long poem, while showing a victory for the "part" method when the whole class is taken into account, yet show the superiority of the "whole" method for the first four pairs of boys, but only to the extent of about 10 per cent.

Winch concludes :

(1) Again, with the four shorter poems of the final tests the "part" method of learning has proved the better.



(2) With the long continuous poem of "Dora" the balance of advantage is transferred to the group working by the "whole" method. He thinks some unusual factor in the nature of the poem itself, possibly its much greater length (it has nearly 1,500 words), or its continuity in style and meaning, or perhaps its coherence as a story and its absence of rhyme, or combinations of these factors, has rendered the "part" method much less profitable than usual.

This experiment was repeated (minus the longer poems) in the girls' department of the same school. The results showed a differential advantage in favour of the "part" method of 4.7 per cent. The average age of the girls was 13 years 1 month.

Taking Winch's figures as they stand, the advantage of the "part" method decreases as age and school grade increase, as the following table shows :

| <i>Age.</i>              | <i>Standard.</i> | <i>Differential Advantage<br/>of "Part" Method.</i> |
|--------------------------|------------------|-----------------------------------------------------|
| 11 years 7½ months ..... | V and VIb.       | 26%                                                 |
| 12 " 8½ " .....          | VA, VI, and VII. | 13%                                                 |
| 13 " 1 " .....           | VII.             | 4.7%                                                |

It also decreases as memorizing ability increases, as the following table, calculated from Winch's figures, indicates. Taking the marks for the "whole" method work as 100 in each case, those for the "part" method work are :

| <i>Marks for<br/>Preliminary Tests.</i> | <i>Marks for Final Tests.</i> |                |                   |                                      |
|-----------------------------------------|-------------------------------|----------------|-------------------|--------------------------------------|
|                                         | <i>Short Pieces.</i>          | <i>"Dora."</i> | <i>"Seagull."</i> | <i>"Seagull."<br/>(Second time).</i> |
| EXPERIMENT I :                          |                               |                |                   |                                      |
| Over 250 (13).                          | 124                           | 103            | 152               | —                                    |
| Under 250 (6).                          | 131                           | 109            | 158               | —                                    |
| EXPERIMENT II :                         |                               |                |                   |                                      |
| Over 350 (11).                          | 108                           | 89             | 98                | 95                                   |
| Under 350 (15).                         | 115                           | 97             | 122               | 118                                  |
| EXPERIMENT III :                        |                               |                |                   |                                      |
| 1st Half (5).                           | 105                           | —              | —                 | —                                    |
| 2nd Half (5).                           | 113                           | —              | —                 | —                                    |

(The figures in parentheses are the number of pairs in the division.)

It will be seen that in every case the "part" method has produced better results relative to the "whole" method with the lower part of the class, that is with the weaker memorizers.

The general conclusion that span of apprehension and immediate memory, which is known to vary with mental development, is an important operative factor in memorizing poetry seems to be warranted by the above tables, which are based on Winch's figures.

It is probable, however, as I have already indicated, that the figure in the case of the first experiment would have been lower if more time had been allowed for memorizing.

Winch goes on to say that where the meaning and phrasing are difficult, as, to take an extreme case, with sequences of nonsense syllables, or where the grade of mental development is relatively low, the "parts" apprehended and memorized at one span must be easy and short. Where the sequence is easy and follows in some close and clearly apprehended connection, the span of learning and memorizing may well be longer, and he finally concludes that there seems no doubt that for school children of these grades and ages a "part" method of memorizing poetry is decidedly superior to a "whole" method.

We have to ask whether we must accept this last conclusion as final and applicable to all children of this age.

The fact that in his second experiment the abler boys did much better by the "whole" method in the longer poems points to the conclusion which Winch hints at but does not definitely formulate, that the greater the mental development the more will the "whole" method tend to show its value.

Thomson and Duff\* have shown that the highest intellectual ability comes from the professional classes, who do not as a rule send their children to the public elementary schools. There is presumably a dearth of intellect in the elementary schools, which will be accentuated in the higher standards, from which Winch's children were taken, owing to the best scholars going on with scholarships and free places to the secondary schools.

Will Winch's results be confirmed by similar experiments with children of a different grade and social class?

The following experiments were conducted in the autumn and spring of 1925-26 with a view to answering this question, and to throwing more light on the whole problem.

### PRELIMINARY EXPERIMENTS.

The first series of experiments was undertaken with a class of nine boys aged at the beginning of the experiments from 12 years 2 months to 13 years 6 months. This was the highest class of a good preparatory school, all of whom have now passed on to public schools.

The numbers are small, but this is unavoidable in preparatory schools, where classes are so much smaller than in the elementary schools, except by interfering with school routine, which I was anxious to avoid, in the desire that the experiments should be conducted under the ordinary conditions of classroom life.

Later I was able to secure larger numbers by combining classes for a time.

It is the custom in the school to devote the first quarter of an hour in the morning to repetition work throughout, and the experiments with one exception, were all done in this period, from 8.55 to 9.10.

### EXPERIMENT I.

Two verses from Sorley's "Ungirt Runners" were read to the boys—one by the "mixed" method and the other by the "whole" method, and they were asked to write down what they remembered.

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\**British Journal of Psychology*, Vol. XIV, p. 192.



The first verse was read as follows : The first two lines were read four times, then the third and fourth four times, next these four lines together twice, followed by the fifth and sixth lines four times, the seventh and eighth four times, and then these four together twice, and finally the whole verse was read through twice. Thus each line was read eight times. Immediately following the final reading the verse was written out. The second verse was read eight times straight through, and written out at once.

Now it is possible that the newness of the piece would affect the learning of the first verse unfavourably, and that the second verse would be learned better, apart from change in method, simply because the idea of the poem and its form and rhythm had become more familiar. I have already noted that this factor has not been given enough consideration in some previous experimental work. Meumann, for example, says : " When significant material is learned, the whole procedure proves to be almost as advantageous for children as for adults, as is shown by the following data. Employing the ' part ' procedure, an eight-year-old boy learned a verse of Goethe's ' Erlkönig ' in seventeen repetitions ; in eleven repetitions when he employed the ' whole ' procedure. He learned another verse of the same poem in fifteen repetitions when it was divided into two sections, and immediately afterwards he learned the next verse as one section in ten repetitions."\*

It seems to be claiming too much when all the gain is put down to the credit of the difference in method, for there would have been some improvement even if the same method had been used, owing to the increased familiarity with the scheme of the poem. (See page 183.)

In order to allow for the effect of this increased familiarity I therefore read the third (and last) verse next morning by the mixed method, and it was reproduced as before.

#### METHOD OF MARKING.

The first method of marking was to count one for each word in its right place (spelling neglected), and one for two words transposed, no deduction for words added. The marks gained were as follows :

|                     |                   |
|---------------------|-------------------|
| Verse 1 (42 words). | Total marks, 240. |
| „ 2 (43 „ ).        | „ „ 362.          |
| „ 3 (48 „ ).        | „ „ 336.          |

In the case of the third verse the advantage of familiarity with the form and thought of the poem is on the side of the mixed method, and yet that method has resulted in fewer marks than the " whole " method. Moreover, the third verse repeated two lines of the first, and the significance is indicated by the fact that every boy wrote both lines perfectly.

Another way of showing the results may be given. The following table shows the number of errors and omissions for each verse :

|               |      |
|---------------|------|
| Verse 1 ..... | 139. |
| „ 2 .....     | 25.  |
| „ 3 .....     | 93.  |

---

\*Meumann, " Psychology of Learning," pp. 284-5.

There are nearly four times as many errors and omissions in the third verse as in the second, in spite of the fact that two lines of the third had already been learnt the previous day, and every boy made more mistakes in the third verse than in the second. This seems to point quite clearly to the superiority of the " whole " method in learning a short poem orally.

## EXPERIMENT II.

The next experiment was a longer one. First the boys were divided as evenly as possible into two groups on the basis of the total marks gained for the three verses in the previous experiment. Then one group learned Barry Proctor's " The Sea " by reading the whole poem straight through again and again, trying to remember as they went along, while the other group learned verse by verse, not going on to a new verse until they knew all that came before it. The ninth boy was allowed to choose which method he preferred, and he chose the " whole " method. Shortly before the end of the second daily period of fifteen minutes one boy announced that he had mastered the poem. The class were told not to spend any more time on it, and two days later they were asked to write out all they remembered. Marks were given, as before, and the results were :

" Whole " method..... 737 marks (previous experiment 424).  
 " Part " method ..... 424 ,, ( ,, ,, 447).

The group which learned by the " whole " method, judging by their marks in the oral memory experiment, were a little inferior in memorizing ability to the " part " method group, but they remembered 74 per cent. more of this poem. Two of those who learned by the " whole " method wrote out the poem almost perfectly, one of these being the boy who first said he knew it, while none of the " part " method memorizers got more than half marks.

Next the groups were reversed, and Macaulay's " Jacobite's Epitaph " was learned. The ninth boy now learned by the " part " method. One period of fifteen minutes was spent, and after five minutes of the next day's period had passed one boy, a member of the " whole " method group, said he knew the poem, and it was immediately written out. The writing was a little hurried, as the boys had to go on to another class, but all said they had written all they remembered.

Marks obtained were :

" Whole " method..... 416 (previous experiment 447).  
 " Part " method ..... 391 ( ,, ,, 424).

The boys thought this poem more difficult than the previous one, as indeed it is ; the references to places had not been explained.

There is no significant difference between the results obtained by the two methods for this poem at this stage, with reproduction following immediately upon learning. It is, however, possible that a little longer time would have enabled those who learned by the " whole " method to raise more of the poem above the memory threshold. In order to test this possibility a week later the class were given three minutes more



with the poem, and it was again written out. None of the boys had consciously had the poem in mind during the interval. The results were :

"Whole" method..... 576.

"Part" method ..... 509.

The advantage for the "whole" method is 13 per cent.

Every boy improved on his previous record except one, who had given a perfect reproduction on the previous occasion, which he repeated, but the extra three minutes had done half as much again for the "whole" method group as for the "part" method group.

The "whole" method group added 160 marks; the "part" method group added 108 marks.

It has already been remarked that the time allotted to the task of memorizing is an important factor in any experimental work of this type, and these figures are confirmatory.

The two poems were not of the same length, and the time taken to memorize them is not proportional to their length, the second piece, although much shorter, taking nearly as long as the first before being mastered, and then showing considerably less advantage for the "whole" method. It may be that this relative difficulty is one of the factors which determine the relative advantage of the two methods. Watt ("Economy and Training of Memory") says: "Familiar matter, then, may be learned as a whole; unfamiliar matter must be studied bit by bit, even at the risk of false associations, until it becomes familiar." The allusions in the Jacobite's "Epitaph" were unfamiliar and would need this bit-by-bit attention, so that the "part" method would not be at such a disadvantage as in "The Sea."

The fact that the poems were of different lengths and different degrees of difficulty does not make it easy to compare the achievements of each boy by the two methods, but if we add up the marks gained by the whole class, including the ninth boy, for each poem, and reduce each boy's marks in this proportion, we can "weight" for difficulty. The total marks gained for "The Sea" was 1,312, for "Jacobite's Epitaph" 1,183. Reducing the marks for "The Sea" in the proportion of 1,183 to 1,312, and then further reducing in the proportion of 23 to 28 for time taken in memorizing, we get the following table, which is offered only as a tentative comparison of the achievements of each boy by the two methods :

|                                         | "Whole" Method. | "Part" Method. |
|-----------------------------------------|-----------------|----------------|
| 1.....                                  | 150 "Epitaph."  | 98 "The Sea."  |
| 2.....                                  | 196 "The Sea."  | 146 "Epitaph." |
| 3.....                                  | 143 "Epitaph."  | 62 "The Sea."  |
| 4.....                                  | 55 "The Sea."   | 80 "Epitaph."  |
| 5.....                                  | 133 "Epitaph."  | 57 "The Sea."  |
| 6.....                                  | 112 "The Sea."  | 130 "Epitaph." |
| 7.....                                  | 186 "The Sea."  | 147 "Epitaph." |
| 8.....                                  | 150 "Epitaph."  | 98 "The Sea."  |
| 9.....                                  | 110 "The Sea."  | 136 "Epitaph." |
|                                         | 1,235           | 954            |
| An advantage for "whole" method of 29%. |                 |                |

# SHOULD CHILDREN LEARN POEMS IN " WHOLE " OR IN " PARTS ? "

From this table it seems as if some boys may learn better by the " part " method. The records of three boys are higher for this method, while those of the other six show a considerable superiority for the " whole " method.

Three months later the two poems were again written out from memory, after having been read aloud once, and the marks gained were as follows :

" The Sea "—" Whole " method, 720 ; " part " method, 448.

" Jacobite's Epitaph "—" Whole " method, 537 ; " part " method, 466.

In the case of every pair but one the " whole " method produced better results for delayed reproduction, and the advantage for " The Sea " is 60 per cent. and for " Jacobite's Epitaph " 15 per cent.

Combining the two results and weighting for difficulty and time taken, we have the following table :

| " Whole " Method.                                    | " Part " Method. |
|------------------------------------------------------|------------------|
| 144                                                  | 97               |
| 185                                                  | 149              |
| 128                                                  | 49               |
| 69                                                   | 59               |
| 123                                                  | 124              |
| 126                                                  | 67               |
| 135                                                  | 143              |
| 139                                                  | 101              |
| 118                                                  | 115              |
| <hr/> 1,167                                          | <hr/> 904        |
| Giving an advantage for the " whole " method of 29%. |                  |

The number of subjects engaged in this experiment is small, and if the results were not supported by those of other experiments to be recorded later one would not be able confidently to affirm the superiority of the " whole " method.

## EXPERIMENT III.

The subjects of this experiment were a group of fifteen boys from the middle classes of the school, aged ten to thirteen. They all memorized the first two verses of Poe's " Eldorado " from the book, learning a verse at a time. In four minutes one boy said he knew it, and the whole class immediately wrote it out. Then they learned the third and fourth verses as one whole. In two and a half minutes one boy said he knew it, but the same time was allowed as had been taken for the first two verses, and then it was written out. The scores were as follows :

" Part " method (46 words)—Total marks 449 (average 30).

" Whole " method (47 words)—Total marks 625 (average 42).

The boys were then asked why they had learnt the second half so much better than the first, and several said it was easier, giving as a reason for this that they had got into the swing of it and knew more of what it meant.



There was in this experiment an advantage of 40 per cent. for the " whole " method over the " part " method, but we must not attribute all to change of method ; some of it is undoubtedly due, as the boys themselves saw, to increased familiarity with the thought and rhythm.

Another factor that probably enters in is what is known to students of fatigue conditions as " warming up," and this may have been implied by the boys' expression " getting into the swing of it." I should hesitate to pronounce, by virtue of this experiment alone, on the superiority of the " whole " method. A later test with the same material by a different procedure did show unmistakably the superiority of the " whole " method (see page 194.)

#### EXPERIMENT IV.

The next series of experiments was done with the Third Form of the school, a class of fourteen boys whose ages ranged from 10 years 2 months to 11 years 10 months. The marks they had gained for poetry during the eight weeks of term which had already gone by were taken as a basis for division into two equal and co-ordinated groups.

The first piece memorized was " Tartary," by Walter de la Mare. Group A were told to learn the piece line by line and verse by verse, not going on to a fresh line or verse until all that had gone before was properly known. Group B were told to read the whole piece through again and again, trying to remember as they went on. They learned for two periods of fifteen minutes and then wrote out what they knew. One mark was given for each word correctly placed, and one for two words transposed, spelling neglected, and deductions for words added.

One boy was absent and another left out of calculation, though he did the work of Group B. The results were:—

(Number of words in piece 180.)

" Part " method . . . . . 498 (average 83). Marks for previous work 305.

" Whole " method . . . . . 426 ( " " 71). " " " " 312.

The " part " method has the advantage, but the best mark is 110 out of 180. The time has evidently been inadequate. Another period of fifteen minutes was allowed, and the poem again written out, when the following marks were obtained :

" Part " method . . . . . 807 (average 139).

" Whole " method . . . . . 921 ( " " 157).

In every case but one the " whole " method resulted in more marks than the " part " method, and the total shows an advantage of 14 per cent.

The question of adequate time is, as has already been said, an important one. It is necessary to give enough time for at least the better memorizers to reach perfection or near it, for with a piece that is only partially memorized the " whole " method is at an obvious disadvantage ; the " part " memorizer has attained some value for the time spent, in a few lines learnt, while the " whole " learner has only a more or less vague idea of the sense, with perhaps a line or two standing out prominently, but very little of the actual words retained. In several of my experiments the addition of a few minutes to the time allowed has converted defeat into victory for the " whole " method.

Later the class, with groups reversed, learned Beeching's "Going Downhill on a Bicycle," and this was written out after two periods of fifteen minutes each, with the following results:

(Number of words in piece 142.)

"Part" method . . . . . 437 (average 73). Marks for previous work 312.  
 "Whole" method . . . . . 348 ( " 58). " " " " " 305.

Once more another period was given in order to bring the work nearer to perfection, when the marks were:

"Part" method . . . . . 704 (average 117).  
 "Whole" method . . . . . 688 ( " 115).

In this case the total shows a slight superiority for the "part" method. Note again the advantage to "whole" method of added time.

This poem was much more difficult than the previous one, its rhythm less pronounced, and the rhymes did not make so much impression, and were, indeed, often missed. These factors in the poem have no doubt contributed to a lack of uniformity in the results, and all we can conclude in this case is that with more difficult material the pronounced advantage of the "whole" method is not apparent.

Finally, a third poem was learnt, with the same grouping as for the second, Stevenson's "From a Railway Carriage," and the results were:

(Number of words in poem 120.)

"Part" method . . . . . 638 (average 106).  
 "Whole" method . . . . . 539 ( " 90).

In this case the "part" method gained more marks, an advantage of 18 per cent., and in five cases out of six the "part" learner did better than the "whole" learner.

It does not seem to be the factor of difficulty which has led to the absence of the advantage on the side of the "whole" method, for eleven of the twelve thought this the easiest piece of the three, and, indeed, they did learn it most quickly. There is in the poem, however, nothing to bind together the separate pictures, "each a glimpse and gone for ever," no reason for the order in which they come, only a connecting link with the idea of a moving train and each picture has to be considered by itself and memorized by itself. In fact the title alone gives almost as much help in integrating the poem as reading it through.

#### CONCLUSION.

From this series of experiments we may fairly conclude that while the "whole" method is superior for boys of this age and average mental ability, with poetry that is easy, has a good swing with it, and a binding thread running through it, this superiority is absent with material that is difficult, or whose ideas are not closely bound together, or in which rhythm and rhyme are not easily appreciated.

The number of subjects in the above experiments has been small, and the results, considered by themselves, could not be taken as final unless supported by more elaborate and more carefully planned investigation. This support is, however, forthcoming from the results of the main experiments now about to be described, the way for which was prepared by the foregoing tests.



MAIN EXPERIMENTS.

EXPERIMENT V.

For this series of experiments the subjects were twenty boys, members of the two highest forms, whose ages ranged from 12 years to 13 $\frac{3}{4}$  years.

First of all the boys learned three short poems : " The Lute Player " (by William Watson), " A February Song " (by W.M.E.F.), and " Snow " (by Alfred Noyes).

After each had been learnt it was written out, and one mark was given for each word correctly placed, one mark for two words transposed, and one mark deducted for each added word. The marks for the three poems gained by each boy were then added together, and on the basis of the individual total scores a division was made into two equal, correlated, parallel groups.

Then three poems were learnt, one group memorizing by the " whole " method and the other by the " part " method, instructions being given as before. The three poems were: " Tartary " (by Walter de la Mare), " From a Carriage Window " (by Stevenson), and " Eldorado " (by E. A. Poe).

Owing to epidemics and consequent absences only fourteen boys were present throughout, and I have included these boys' marks only in the combined results.

For the three poems added together we have the following results :

(Number of words altogether, 393.)

| <i>" Whole " Method.</i>                                         |               | <i>" Part " Method.</i> |               |
|------------------------------------------------------------------|---------------|-------------------------|---------------|
| <i>Preliminary.</i>                                              | <i>Final.</i> | <i>Preliminary.</i>     | <i>Final.</i> |
| 318                                                              | 387           | 318                     | 376           |
| 317                                                              | 386           | 316                     | 372           |
| 301                                                              | 392           | 305                     | 381           |
| 292                                                              | 365           | 284                     | 363           |
| 272                                                              | 373           | 274                     | 320           |
| 266                                                              | 384           | 253                     | 345           |
| 269                                                              | 370           | 276                     | 365           |
| <hr/>                                                            | <hr/>         | <hr/>                   | <hr/>         |
| 2,035                                                            | 2,657         | 2,026                   | 2,522         |
| <hr/>                                                            | <hr/>         | <hr/>                   | <hr/>         |
| There is an advantage in favour of the " whole " method of 5.4%. |               |                         |               |

It will be noticed that this advantage is maintained in the case of every pair, as well as in the total score.

The results for the individual poems were as follows :

" Tartary " (180 words).

" Whole " method ..... 1,227 (average 175).

" Part " method ..... 1,153 ( " , 165).

There is a differential advantage in favour of the " whole " method of 6.4 per cent., confirming the results already obtained with a class of younger boys for the same material. The advantage is present in the case of every pair.

SHOULD CHILDREN LEARN POEMS IN " WHOLE " OR IN " PARTS ? "

“ Eldorado ” (93 words).  
“ Whole ” method..... 634 (average 90.5).  
“ Part ” method ..... 601 ( „ „ 86).

The advantage in favour of the “ whole ” method is in this case 5.5 per cent. It is then probable that some of the advantage of the second part over the first in Experiment III (page 191) is due to difference of method.

“ From a Carriage Window ” (120 words).  
“ Whole ” method..... 913 (average of eight boys 114).  
“ Part ” method ..... 871 ( „ „ „ „ 109).

There is an advantage for the “ whole ” method of 4.8 per cent., but the advantage is not uniformly distributed. In two cases the “ part ” method proved more effective.

It was with this same poem that a class of younger boys showed a similar lack of uniformity, although in that case there was a difference in favour of the “ part ” method. The conclusion we then drew, that the lack of cohesion between the different pictures in the poem was a disturbing factor, seems to be confirmed by the results of this experiment with older boys, although in this case the total marks are greater for the “ whole ” method.

There seems, then, to be cumulative evidence that the nature of the poem is one of the factors determining the relative efficiency of the two methods.

Taking the results for the three poems together, there is a distinct, uniform, though small, advantage for the “ whole ” method. A glance at the figures will show that quite a few of the boys who learnt by that method were not far from perfection. There was some hesitation on the part of the boys to say they knew the poems, and there is reason to think that there was some unnecessary time spent by the “ whole ” method group after a poem could have been reproduced. It has been suggested by Valentine\* that if there has been this “ over learning ” it will tell in the long run, if the material is again tested after an interval. A month later, therefore, the boys were told, without any previous warning, to write out all three poems, and the following results were obtained .

| <i>“ Whole ” Method Group.</i>                                  | <i>“ Part ” Method Group.</i> |
|-----------------------------------------------------------------|-------------------------------|
| 387                                                             | 228                           |
| 312                                                             | 314                           |
| 375                                                             | 335                           |
| 343                                                             | 353                           |
| 303                                                             | 211                           |
| 325                                                             | 148                           |
| 246                                                             | 197                           |
| <hr/> 2,291                                                     | <hr/> 1,786                   |
| There is an advantage in favour of the “ whole ” method of 28%. |                               |

\*“ Experimental Psychology and Education,” page 136f.



There can, then, be no question that these short poems have been much better retained when learnt by the " whole " method than when learnt by the " part " method.

The marked superiority in retentiveness shown by the " whole " method group in the delayed reproduction test confirms the suspicion entertained after the immediate reproduction test that that group had spent some time in " over learning," and if the time allowed for memorizing had been a few minutes less would have produced results differing but little from those actually attained, while the marks of the " part " method group would have suffered to a greater extent, and the superiority of the " whole " method group would have been greater than the 5 per cent. actually recorded.

## VI. EXPERIMENT WITH LONG POEM.

Later the same class of boys learned " The Ballad of St. Christopher," a long poem of 793 words. Five periods of twelve minutes each were spent in memorizing, one group as before reading the poem through from beginning to end time after time, the other group learning a verse at a time. The poem was then written out. It could not be finished that day, but the boys were told not to look at it again (and these instructions were carried out) until next day, when the writing out was finished. The marking was as before. The results were :

| <i>" Whole " Method.</i>                                        |                                  | <i>" Part " Method.</i>            |                                  |
|-----------------------------------------------------------------|----------------------------------|------------------------------------|----------------------------------|
| <i>Marks for Preliminary Work.</i>                              | <i>Marks for " Christopher."</i> | <i>Marks for Preliminary Work.</i> | <i>Marks for " Christopher."</i> |
| 318                                                             | 789                              | 317                                | 713                              |
| 305                                                             | 754                              | 316                                | 644                              |
| 301                                                             | 752                              | 292                                | 621                              |
| 276                                                             | 762                              | 284                                | 331                              |
| 274                                                             | 707                              | 272                                | 592                              |
| 266                                                             | 756                              | 269                                | 521                              |
| 253                                                             | 565                              | 246                                | 377                              |
| <hr/> 1,993                                                     | <hr/> 5,085                      | <hr/> 1,996                        | <hr/> 3,799                      |
| There is an advantage in favour of the " whole " method of 34%. |                                  |                                    |                                  |

It was not possible to test for delayed reproduction, as several of the boys left the school at the end of the term, soon after the above experiment was completed.

There is thus cumulative evidence of the superiority of the " whole " method for learning poetry, whether short poems or long ones, for boys of preparatory school grade.

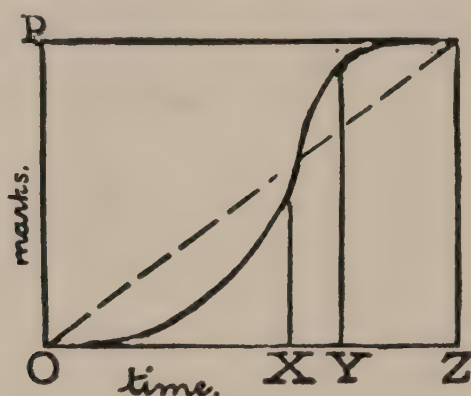
My experiments have led me to conclude that the method of " Equal Groups " originating with W. H. Winch is a sound one for investigating the problem and likely to lead to reliable results, provided the time allowed is sufficient. If this is not enough to enable a good proportion of the subjects to reach perfection, or near it, the " part " method may show a superiority, which disappears when a little extra time is allowed.

It may be that even when the time is adequate for the best memorizers the advantage for the "whole" method may be swamped by a "part" method superiority for the weaker members, and that if time were allowed for these too to reach nearer to perfection the advantage of the "whole" method would appear throughout. It would probably be less for the upper part of the class, if tested by immediate memory, for there would be some over-learning, but this would be revealed by a test after some weeks.

Seeing that the object of learning poetry in school is to achieve an accurate knowledge of a poem, and not a mere smattering of it, this is a very significant factor from an educational point of view.

I suggest that for each individual there is a duration of time for memorizing a poem (varying with the length of the poem and the nature of its material), below which, under conditions of testing and marking initiated by Winch and adopted here by me, the "whole" method would be at a disadvantage, for reasons already indicated. If this duration of time exactly is allowed there will be nothing to choose between the two methods, but every increase of time beyond this increases the advantage of the "whole" method until a limit is reached when the advantage, tested by immediate reproduction, begins to decline. This limit would be at the point where the poem can just be reproduced perfectly, after having been learned by the "whole" method. Any time spent beyond this limit would allow the "part" method learner to catch up, while the "whole" method learner is over-learning.

This will be made clearer by the following diagram :



The broken straight line indicates progress of "part" learner, the unbroken curve that of "whole" learner.

Time is measured along axis of X.

Marks obtained along axis of Y, OP=maximum.

OX=Time when "whole" learner catches up "part" learner.

OY=Time of maximum superiority of "whole" method.

OZ=Time when "part" learner once more catches up "whole" learner, as tested by immediate reproduction.

YZ=Time spent by "whole" learner in over-learning.

This over-learning, although it would not be evident in the results of a test given immediately after memorizing, would reveal itself if a delayed test were given.

In order to secure an adequate test of the relative effectiveness of the two methods by Winch's procedure the time allowed should be



enough for even the weaker ones to repeat the poem immediately, and delayed reproduction should be tested as well as immediate memory, in order to detect any over-learning.

I have tried to observe these conditions in my later experiments.

The following improvement may be suggested for future investigation by the method of equal groups. When the subjects have been arranged on the basis of preliminary tests in two equal, parallel, and highly co-ordinated groups, the time allowed for memorizing the poems for the final test should not necessarily be the same for the whole class, everyone writing out the poem as soon as the first subject knows it, or at the end of some time arbitrarily fixed by the experimenter, but should be decided for each pair separately. As soon as one member of a pair knows the poem both he and his paired associate should write it out. Thus we shall be testing not alone for the best two or three pairs of learners, but for every pair in the class, which method leads more quickly to the goal of perfect knowledge of a poem.

This refinement of method occurred to me too late to be of service in this investigation.

### FINAL CONCLUSIONS.

(1) As a general rule, provided sufficient time is available, a poem will be learnt more effectively by a " whole " method by boys of the type found in the upper forms of a preparatory school.

(2) This superiority varies with the nature of the material—

- (a) With poems that are easy to understand, continuous in thought, and pronounced in rhythm and rhyme the advantage of the " whole " method is considerable and increases if tested after the lapse of a few weeks.
- (b) If the material is disconnected, or difficult to understand, even though rhythm and rhyme are pronounced and pleasing, or if rhythm and rhyme are feeble, the advantage of the " whole " method is much less on the whole, and tends to be unevenly distributed through a group, and with younger and less developed boys may disappear altogether.

## A Suggested Alternative to the Student-Teacher Year.

By JESSIE M. CARDER.

The task of selecting candidates for admission to training colleges is admittedly a very difficult one. It is obvious that the present system of selection does not always eliminate those unfitted by personality for the constant claims, in teaching, upon vitality, enthusiasm, sympathy, and patience. Ability to maintain an artificial class discipline, and the acquisition of stereotyped teaching devices—too frequently the outcome of a student-teacher's efforts to cope with situations beyond her reach—only check the natural development of the young teacher and of her pupils, and give rise to erroneous conceptions of the teaching process. The student would be better equipped for considering the theory and practice of her professional work if she were trained to speak well, to think clearly, to have good taste and judgment in the directions in which she has had experience, if she had some definite interests which would help to develop a high standard of living, and some realization of the responsible nature of the work she wishes to take up.

Some means of giving this training and of testing personality must be found. We need to dispel the prevalent idea that the career of elementary school teaching is the field for the inferior intelligences of the secondary schools. Where the determining of the school curriculum and of the type of examinations is related entirely to preparation for university studies, this attitude naturally follows. All pupils should not be forced into the same mould,—recognition should be given to differing interests,—and some feeling for vocation should be stimulated. A pupil who, instead of specializing, wishes to advance her education on a more liberal basis than that for which the examinations provide, should not be handicapped, nor should she be regarded as necessarily inferior on account of such a choice. If, further, she expresses a preference for elementary school teaching, she should not be regarded as of secondary importance, compared with pupils who are preparing for university scholarships, nor as one of the "anomalous folk for whom it is very difficult to make satisfactory provision." The abolition of a student-teacher year will prevent a student's energies from being dissipated between two schools, to neither of which she feels she truly belongs, but it does not imply that no preparation for the teaching vocation need be given before admission to a training college. As a full-time pupil in the secondary school, her last year should be a privileged year, with close contact with the head and staff of the school—spent not in working for examinations, but with the teaching vocation in view. No longer thrust into the new environment of an elementary school with only scant contact with the secondary school, the student would have new experiences, and experiences from a different standpoint, in an environment which is already familiar, experiences which would test and develop just those qualities of mind and character which are essential in a teacher. That a pupil is "a nice girl with a pleasant disposition" does not necessarily fit her for the teaching profession,—even "a capable girl" or "an excellent student" may not have the power of stimulating others, nor the social qualities of



sympathy, tolerance, and patience. One highly desirable quality is an appreciation of humour, which, in addition to establishing good relationships with pupils, is sometimes the only means of preserving a teacher's sanity in trying situations. She should have opportunities of showing whether she has initiative, ability to think for herself, whether she can be relied upon to carry out a piece of work with thoroughness, whether she has a sense of responsibility and some of the qualities of leadership. By holding some responsible office in the school, e.g., prefect, member of committee for magazine, clubs, or games, involving organization of school activities or the keeping of accounts, records, or minutes, she would be able to reveal her quality, and would develop the idea and the spirit of social service. She would realize the importance of community life in a school. Willingness to co-operate and social sympathies are essential in a teacher, and anyone who lacks this attitude should be deterred from entering the profession.

If there were two years at the student's disposal after passing the school certificate or matriculation examination, the first year should be devoted to general studies in which the arts and crafts would have a prominent place, and this work would be shared by all pupils who were not preparing for university scholarships. New interests and congenial occupations are needed at this stage, when the adolescent seeks for change and novelty, and creative expression. Synthetic studies would provide a new starting-point, and would help the pupil to realize the co-ordination and unity of knowledge, which previous studies have tended to draw apart. One is sometimes astonished at a student's lack of knowledge of her own environment, which often accounts for later inability to relate her teaching to the ordinary activities of everyday life, and to the environment in which the pupils live. A regional survey of a definite area would give practical application and further stimulus to the study of history, geography, literature, nature-study, art, etc., and would form a basis for and give valuable training in research and in social studies. It would take the student out-of-doors, stimulate purposeful collections, the purposeful study of records, the collating and classifying of material, and would give convincing proof of what can be achieved by co-operative effort. This type of study, together with variety in craft-work, and scope for æsthetic and emotional training through art, music, drama, dancing, and games, would provide for the expression and satisfaction of personality on a liberal basis.

During the last year there would be some differentiation of training according to the pupil's expressed preferences as regards vocation. The prospective teacher's studies would be directed towards developing leisure interests—outdoor, æsthetic, or practical—with scope for expressing her personality by some freedom of choice. The aim should be to associate definite cultural or practical interests with pleasure and leisure, so often associated only with "cram" and work. Instead of regarding cinemas and dances as the only means of release from this continual pressure of work, a student thrown on her own resources would turn to her special interests, and would learn to appreciate good opera, drama, art, and literature, or the joy of outdoor pursuits. Training in good taste should be considered an essential part of her education as a prospective teacher.

It is a noticeable fact that students who enter training colleges do not know how to use their leisure, because they have previously had no leisure to use. For the two or three most important years before entering the colleges, their time has been fully occupied with working for examinations. Personal interests and hobbies have been abandoned for this end, and at a time when there should be outlets for emotional and creative urge and for "intake of joy," their education has been narrowly intellectual, bookish, and specialized. In the pursuit of certain types of higher courses, even the humanities have been neglected. A balanced personality and many-sided interests, bringing resource and initiative, are essential in a teacher, yet the natural opportunities by which these can be developed have been withheld from the pupil. The cult of examinations has resulted in the attempt to force the pace in certain directions, by dissociating certain aspects of personality and trying to cultivate these intensively, and the product which is so much criticized is the inevitable result of this unnatural training.

Study should not be divorced from reality. A teacher needs to enrich her personality and interests by having contact with life at many points,—with places, activities, and people. By forcing upon a prospective teacher an exclusively bookish and detached education with more or less regulation of her life outside school, followed, as it is in some cases, by a cloistered existence for two years in a college where others of her own age and sex are segregated, one is training her for inefficiency. It should also be borne in mind that a woman is a better teacher if she has an interest in something outside teaching. As her daily contacts are with immature minds, and as teaching may be a somewhat limiting process—being, in many respects, an analysis of what she already knows—she needs experiences which will give satisfaction to her own developing mind, and which will help her to retain a healthy poise and mental freshness. In giving freedom for development to her pupils she has to keep herself in the background, but she needs all the more an outlet for personal creative power, and for synthetic development—otherwise she risks abnormality and lack of balance. Varied outlets should be revealed to her, and interests should be awakened, during adolescent years. To argue that such experiences are only deferred for a time is not to meet the situation. Nothing can compensate later for lack of emotional, social, and spiritual nourishment at the time when it was needed. The individual will never respond again with the same spontaneity and zest.

In addition to these leisure interests, much time in the pre-college years should be given to English—to developing in these students the power to make themselves articulate. This is probably one of the most important needs of the present day. Under the continual pressure of working for examinations, pupils spend most of their time in absorbing, and often memorizing, ideas from text-books, and fail to develop in themselves the ability to state what they know in orderly fashion and in logical sequence. Much of the looseness of thought and inexactness of statement is probably due to half-assimilated knowledge, but even the ability to write a good letter is rare. Some growing power of analysis can be expected in the adolescent girl, and this should be given scope in training her to clarify and organize her ideas, to see relationships, and to express the results in clear and direct statements. Lucid and reasoned exposition is fundamental in teaching.



In the use of books, students need to be trained to be more independent. If they are always given the exact source from which they can get their information, even to chapter and page, they never learn how to search and acquire for themselves. Valuable training could be given in the use of a library—how to use the card index, or catalogue ; how to use many books in search of guidance or information on particular topics ; how to weigh evidence and form conclusions for oneself. The students need to be trained to be accurate in their statements, to express their own opinions, and to be prepared to explain how they have reached them, instead of merely echoing what they have read.

Good speech and a pleasing voice are important factors in teaching, and these should not be left to chance. A definite course in speech-training would have lasting value, and would serve to detect, and to divert from the teaching profession, those who had natural defects of the speech organs which could not be overcome. The pupil should learn how to produce the voice properly, to vary its tones, to articulate clearly, and to correct faults in accent or pronunciation before entering a training college. Opportunities of testing continuous speech and ability in expression should be given in debates, in reading short papers on interesting topics relating to questions of the day, and in occasional opportunities of telling stories to the children in the junior classes, or in her own "house." Students should also be stimulated to take an interest in the newspapers and better-class magazines. Ability to read aloud intelligently, and to talk upon matters of common interest, is an important acquisition towards general culture.

One of the requirements in a teacher is an understanding attitude towards children, and a real joy in sharing their experiences. Some indication of these qualities should be expected in the prospective teacher, and she should have opportunities of contact with younger children in the school by taking a share in their story lessons, by organizing and entering into their games, or by sharing responsibilities for them on class excursions or school picnics, etc. If a student does not enjoy such natural contacts, she lacks one of the essentials for successful teaching.

In the course of this last year it would be helpful if visits to elementary schools (infants', girls', and mixed) could be arranged for the purpose of observing children's responses at different ages and the conditions under which a teacher has to work. This experience would also guide the student in her choice of that part of the school in which she would like to teach. In relation to other vocations this idea has already been adopted in both secondary and elementary schools. After a preliminary talk on the nature of the work, the means of entering or of qualifying for such vocations, the possibilities of promotion to higher grades and to positions of responsibility, visits are arranged to offices, factories, workshops, where the pupils are initiated further into the conditions under which such work is carried on. This may help to prevent "misfits," and does help the pupil to exercise his or her own choice, instead of blindly following a parent's or friend's suggestion. This idea could be extended with advantage. Although a prospective teacher might herself have been at one time a pupil in an elementary school, she would regard it at this stage from a totally different standpoint.

With some self-chosen pursuits, English, training in speech, social responsibilities, and interest in children, this last year of school life would give real joy, stimulate enthusiasm for learning, and would develop an active personality with intelligent outlook and wide interests. The students would work mainly independently, as their interests would differ, but they would need to be someone's special care. If necessary, a visiting supervisor (a member of a training college staff) could be attached to a group of secondary schools, who would act in an advisory capacity for these pupils. This would develop co-operation between secondary schools and training colleges, and would help to establish some unity of aim and some common policy in the selection of candidates. The universities have representation on the governing bodies of schools from which they draw many of their students, but training colleges have, at present, no direct means of establishing co-operation.

Pupils who showed themselves unsuitable, in personality, temperament, or mental quality, for continuing with the teaching vocation in view, could be advised and re-directed at this stage into other vocations, without the break in their school life which inevitably results under a student-teacher system ; and students who would ultimately reach the training colleges would be young people with some individuality and self-reliance, and with seriousness of purpose in entering the teaching profession.



## The Foundations of Education.

Volume II. The Practice of Education. By J. J. Findlay. (London : Hodder and Stoughton. Pp. xii+382. 10s. 6d. net.)

PROFESSOR FINDLAY'S wide circle of readers, both at home and abroad, will rejoice at the completion of his fine work on the foundations of education in this concluding volume devoted mainly to practice. It is only in this book that we can see the full significance of the design set forth so attractively in the first volume, and doubtful questions raised in the earlier portions of his work are now fully threshed out in the later. How far school life as actually experienced in all its fullness is an epitome and expression of the values enshrined, however imperfectly, in the Great Society, and how far the main principles asserted in his first volume are justified in the scrutiny of this epitome, is Dr. Findlay's aim and first task. The teacher less as a moulder of that life than as a partner therein is his ideal, less the servant hired by a local education authority and more the servant of the child, this is his ideal for us all. Sensitive as always to the inexorable requirements of efficiency so splendidly met in American educational precept and practice, sensitive and faithful as always to John Dewey in the West, he is seen in this volume, dedicated to Rabindranath Tagore, to be even more sensitive to the "life more abundantly" derived not only from that poet and teacher of schoolboys in Bolpur, but also from that greater Poet, greatest Teacher of the East, the "Young Man Crucified."

Foremost in the objectives expressed in the curriculum is placed physical education, to which Findlay gives a wide significance, pleading as much for the free and internally controlled forms of physical activity as for the more organized controlled activities dear to the drill instructor. He claims that at least fifty per cent. of our school education could and should be conducted in the open air, and the staff of every school should be regarded as a health department for its scholars. He would keep the psycho-analysts somewhat at a distance in the matter of physical education, and prefers Sir Arthur Newsholme's hope that "a change in the ideals of the mass of the people would make it bad form to be sexually loose." Thus ethics should be linked with, and find some of its strongest bulwarks in æsthetic. Good conduct and good taste are twin forms of good breeding.

It is natural, therefore, for Findlay to devote the whole of one substantial chapter to co-education, and there the pros and cons of this provocative problem are fairly set forth, not without some hard knocks which celibate men and women must bear with equanimity, nor without a full recognition of the psychological case for a reasonable measure of diminished contact between the sexes during the years from twelve to sixteen. "You will approve unhesitatingly of co-education up to twelve year of age, and at the opposite end of the educational system, beyond twenty years of age. Between those periods you may entertain doubts, or . . . you will desire to impose conditions so that possible dangers may be anticipated." It is not clear, however, whether in view of this general position Findlay himself has doubts as to mixed colleges and universities

where the courses begin at 17+ or what conditions of organization and curriculum he would impose to anticipate possible dangers during the three or four years preceding twenty-one.

Great stress is laid upon handwork in all its many forms, as essential to a sane and worthy existence. He insists that these occupations must be handled both efficiently from the standpoint of joiners, gardeners, housewives, and from the standpoint of liberal culture, taught by craftsmen and craftswomen of refinement. All those who are anxious to see craft subjects more fully recognized as real avenues through which the experiences of growing personality and deepening spirituality may be expressed will be grateful to Dr. Findlay for his constant care for this brief. In like manner he will have no cowardly criticism of the kinema. Rather he would have the schoolmaster "grow a sound kinema audience." The kinema makes use of all the arts; the mechanical devices of our age challenge our whole theory of æsthetic and of ethics. The only possible reply to the challenge is to train the multitude from their earliest years, so that, strong in its right taste, it will master and mould the productions of popular art and kill with contempt those that distaste.

Following upon geography, history, literature, as experiences of form, time, and space all essential to the learner, come those experiences called inner or spiritual. We may be permitted to be specially thankful to our author for his constant recognition throughout this book that education from which religious experience and training are excluded is partial and unsatisfying; we may exclude religion from the time table, "we cannot dethrone it from experience." It takes its place within the circle of humanistic studies, and, more, it informs the whole life and organization of the school.

The chapter on the corporate life is brief but pregnant. In harmony with the corresponding chapters in Nunn's "Data," it has a more personal note in its deeply interesting recollections of and criticism of the Arnold practice and tradition. The reader should ponder this chapter long and searchingly; not leadership but fellowship is now its writer's goal; "the teacher should never imagine himself as the centre," it is, in other words, the child who is set in the midst. The discussion leads to a survey of the major unit, the school, and its sub-divisions into classes, houses, sets, and teams. Group organization is a favourite theme of Findlay's later years and books. He is not afraid of inner freedom being thereby imperilled; creative experience must grow out of social experience. But not wholly so? We miss, and sorely miss, in this book a due recognition of the place of solitude, silence, in the school day and the school way. Surely solitude and silence are even more necessary to creative experience than mere busy-ness in social experience? The saints found it so, and the saints are excellent schoolmasters. Is there nothing for the schoolmaster and the professor of education to learn from the Quakers? Is not the Society of Friends a society of friends because it is a society of silence? Is not the practice of silence a necessary refuge against the mechanical noises of school and city alike?

Of considerable importance to the novice are Dr. Findlay's chapters on school management and on incentives (rewards and punishment), and the experiment described on pp. 192-3 will rejoice those who desire to keep their ideals as fresh and vigorous for as long as possible. His



insistence upon the supreme importance of consistency in all disciplinary regulation is fortified by long experience. We wish the function of the teacher's tongue, in praise or blame, had been more fully discussed, but the interesting analysis of three types of contrariant behaviour, the skittish, the disorderly, and the deliberately evil, is one of many good things in an extremely practical chapter.

The final section of the book comprises six or seven chapters on method. The current slogans of freedom, activity, expression, and the like are considered in their historical setting and for what they are worth. The reformed infant school is dealt with in a very helpful chapter, and the substance of the Hadow Report is either anticipated or embodied in chapters on further education beyond the primary and secondary school provinces, chapters which it would scarcely have been possible to write in a similar book at the beginning of this century. A final and all too brief chapter deals with teaching procedure itself, and here Findlay is tantalizingly elusive. Three modes of handling the problem of method are indicated: that prescribed by the child, by the nature of the subject, and by the reaction between psychology and the logic of the subject itself. If the novice asks for advice, caution, or encouragement on this all-important question of procedure, Findlay frankly answers (p. 371) "No." The novice is bidden to look beneath the details and devices of procedure for principles of human nature justifying proposed devices. This is not unsound advice, but does it give much comfort to the novice confronted with a hundred and one problems from nine a.m. to four p.m.? We agree that lessons carry their own procedure with them once the necessary contact, purpose, *raison d'être* has been established between every pupil and the matter in hand, but it is precisely upon this point of establishing *individual* contact that the novice needs fuller guidance. The paradox of class teaching is real, is felt by the teacher and by the taught; we wish Dr. Findlay had been more comforting to his novice readers than he appears to be in his "No." Yet if the novice will but deeply ponder the poem from Tagore with which Findlay concludes his book he will find there something of the inspiration which he seeks. "Fancy the fabric quite," dig the foundations well, first things first—this is what these two impressive volumes set out to do, and what they in an impressive degree accomplish. Could the author persuade the publishers not to charge half a guinea for each volume his message would directly go to throngs of novice teachers who will otherwise obtain it only at second or third hand. Perhaps he will be able to detach some of the more salient and original chapters to form a little volume, a prolegomena to pedagogy, worthy to stand by his "Introduction to Sociology" and "The School."

ALBERT A. COCK.

## Genetic Studies of Genius.

Volume I. Mental and Physical Traits of a Thousand Gifted Children. By Lewis M. Terman. Second Edition.

Volume II. The Early Mental Traits of Three Hundred Geniuses. By Catharine M. Cox. (Stanford University Press, California; George Harrap and Co., London. Pp. Vol. I xiii+647; Vol. II xxiii+842. One guinea each volume.)

THESE two large volumes are a wonderful example of the best kind of large scale research which the boundless enthusiasm of some American investigators, the number of assistants whom they can call in, and, we may add, the large sums of money available for research, seem to make possible in the United States to a degree which one rarely finds in other countries. Professor Terman had thirteen collaborators in Volume I, Miss Cox three in Volume II, including the Editor, Professor Terman.

For the first research 1,400 special gifted children were examined, all of them within the top one per cent. of the total child population as regards intelligence. The method of selection was as follows—the survey being limited to the largest cities in California. In the selected schools Grades 3 to 8 were chosen, and the teacher of each class was asked to pick out the most intelligent children (one, two, or three according to whether the class was a specially bright one or not), and to name also the *youngest* pupil of each grade.

These nominees were now given the National Intelligence Test, Scale B, Form 1. From them the top ten per cent. were again selected. Thirdly, this last chosen group was given an abbreviated Stanford Binet Test, special selections being made to emphasize non-verbal tests. Pupils with an I.Q. of 130 on this test were given the full tests, and those with an I.Q. of 140 finally selected, and were compared in many respects (e.g., heredity, health, home conditions, special interests, etc.) with a large “control” group representing the non-selected children.

It is impossible in a brief review to give anything like a full report of so extensive a research, but I give a brief account of what seem to me some of the most important results.

A slightly larger percentage of boys show an I.Q. above 160 than is the case with girls, though in the highest class of all, with an I.Q. of about 190, only girls are to be found.

As to nationality, the Jews come far ahead of the others, native parentage being next, while Latin and negro ancestry showed far lower percentages, these figures being obtained after considering the proportion of able children to the total population of the given nationality within the cities tested. The schools report unfavourable home conditions for only 8.6 per cent. of the gifted group, as compared with 24.1 per cent. of the control group.

The trend of the evidence suggests strongly that the heredity of the gifted children is much superior to that of the average. The birth-rate in the families of these children is fifty per cent. lower than that of the preceding generation and far too low to “maintain the stock,” perhaps the most ominous fact brought out by the enquiry.



The results give definite evidence in favour of the superiority in intelligence of the first-born. In this matter, however, it should, I think, be borne in mind that it is impossible to say whether the greater association with the elders that usually falls to the lot of the eldest child does not more than make up for those gains which undoubtedly do follow from intercourse with brothers and sisters somewhat older than oneself.

There are distinct signs of earlier maturing (onset of puberty) in the gifted children as compared with the unselected, the evidence being clearer in the case of girls. One wonders whether the greater proportion of intelligent children among the Jewish families may not be connected with an earlier maturing on the part of the Jews.

One of the most interesting pedagogical facts discovered is that among gifted children the inequalities of the levels of various types of ability is no greater *relatively* than such inequalities found in the normal children, i.e., in the gifted children everything tends to be on a higher level; superiority does not consist simply in highly specialized abilities.

When enquiry was made as to preferences for various school subjects and in reference to other interests sex differences were found to be much less among the gifted children than in the control groups. It is worth noting, perhaps, that penmanship is disliked far more frequently by clever boys and girls than by their less intelligent school fellows. Another interesting point is that the abler children showed much greater indifference as to whether their chief friend was a boy or a girl than was the case with the control group, or, to put it more exactly, the less able children showed far more frequently a strong preference either one way or the other.

The second volume is at least as interesting as the first and in some ways strikes out a more original line of investigation, though at the same time a more difficult one. Some years ago Professor Terman attempted to estimate from records of Galton's early childhood what would have been the calculated I.Q. of Galton if it had been possible to apply to him modern standards. It is this method that, under the guidance of Professor Terman, Dr. Catharine Cox has extended. Some 300 cases of eminent men were selected from those dealt with in encyclopædias and biographical dictionaries. The records of their early childhood were studied and the probable I.Q. arrived at from the evidence of various known achievements at definite ages.

It is obvious that this method, while full of interest, especially from a biographical point of view, has grave weaknesses in that the records of early childhood will be much more reliable in some cases than in others, and much more extensive in some cases than in others. For example, there is probably no one about whose early educational attainments we have so much information given us as J. S. Mill gives us in his *Autobiography*, and Mill at a first rating attains an I.Q. of 190. The evidence of later years, however, is also taken into account by Dr. Cox, where it is available, and this somewhat reduces Mill's I.Q. and leaves Goethe first in the whole list with the amazing I.Q. of 210. The reader will find a good many surprises in the comparative rating of some great men, and some of these facts may make him less confident in the method or in the completeness of our information. Pitt, Carlyle, and Disraeli, for example, come well below Brougham, Alexander Pope, and a number

of less familiar names. With all the possibility of incompleteness, however, the study is rich in interest and suggestiveness.

It will be noted that we have said nothing as to the definition of "genius." The implication in the first investigation was that geniuses are necessarily included among children of a high degree of intelligence as estimated by intelligence tests. That this is not completely so, however, is suggested by the second investigation itself. For example, Bunyan and Copernicus, Cervantes and William Cobbett, are given I.Q.'s between 100 and 110, whilst between 110 to 120 we find Clive, Cromwell, Martin Luther, and George Fox. Allowing, however, for the incompleteness of the information, the general correlation between "genius" and "intelligence" as estimated by modern tests seems clear.

These researches on genius are to continue. They have already given us a vast amount of material of interest for the student not only of "genius" proper, but of general intelligence, specific abilities and interests, precocity and heredity.

C. W. VALENTINE.



## Modern Educational Theories.

By Boyd H. Bode. (New York : The Macmillan Co. Pp. xiv+351. 7s. 6d.)

THIS book, though distinctly American in its background and its topics, is remarkable for its rejection of almost all the favourite educational theories and recent educational methods propounded in the United States. On the theoretic side it rejects behaviourism and the current American view of habit ; on the practical side it severely criticizes the method of "job analysis," the project method, vocationalism, and the framing of degree schemes by combining disconnected courses.

The author's aim is to determine what is the "democratic" form of education. The end of democracy is defined to be a progressive humanization of the social order (democracy is not merely a form of government, and American business methods are declared undemocratic), and a theory of education must be based on a social theory. The old classical and mathematical education he regards as having been definitely based on such a theory—an aristocratic theory going back to Aristotle—and he argues that the disciplinary conception of education implied a belief that each person's function in society was known before his education began. Since faculty psychology and the aristocratic ideal (thus associated) were abandoned, no clear theory based on a democratic social ideal has arisen to take its place ; indeed, he condemns Thorndike's theory of habit as leading directly to the narrowest vocational training for a particular job which might disappear with some slight improvement in the methods of the industry. The educational theory to which the author's social ideal leads is that a democratic education is one which makes a person sufficiently plastic to adjust himself to changes and to help in bringing them about. Along with this educational theory goes a psychology which recognizes "transfer" but saves itself from the stigma of faculty-psychology by holding that transfer takes place through "meanings."

Passing on to the curriculum which is adapted to his end and to his psychology, he finds the existing contest to be between vocationalism, which now is master of most of the field, and the academic standpoint, which is variously described as that of culture, of research, of specialization, and of logical arrangement of subject matter (all of which are attributed to the same school and appear to be regarded as inseparable). Vocationalism has been seeking, by such devices as job analysis and projects, to teach the practical aspects of subjects on a psychological plan instead of the logical plan beloved of the academic mind ; but he argues that some, though not too much, logical arrangement must be accepted if we are to give that kind of training in method which will enable the pupil to deal with new and unpredictable problems, as required by our aim. Vocation and culture both have just claims ; the heresy is to give one subject for vocation and another for culture ; what is needed is a "new integration of vocation and culture." How far this would take the form in which Dewey sought it he does not tell us.

The weakness of the book is that, having assented to the aim and admitted that the principle for curriculum framing is in accordance

with it, the reader is left wondering what sort of a curriculum carries out this principle.

The two features which, in spite of an effective criticism of many American schemes, strike the English reader as distinctively American are the persistent identification of what the writer considers false in educational theory with the faculty psychology and the identification of all which he considers sound with democracy. (He protests against the claim of vocationalism to be democratic, but insists that the faculty psychology is aristocratic.)

The era of faculty psychology is constantly represented as a horrible blackness, not far distant, from which education has emerged, and the Red Sea crossing thus effected marks the epoch of liberation. But it seems to have led to an aimless wandering in the wilderness, and, in spite of the author's assaults on his opponents as unconscious faculty psychologists, it is hard to see the essential difference between his own position and that which was maintained by thoughtful classical humanists and mathematicians in that age of darkness in which the faculty psychology was accepted. Apparently the boundary between truth and deadly heresy consists in the recognition that "transfer" is effected through "meanings," that is, through "intelligence." If the author thinks, however, that he thereby maintains the orthodox position of Bagley that transfer is only effected in consciousness, we should challenge him to deny that meaning is largely sub-conscious and that an intelligent process is largely conducted below the threshold of consciousness. He has explicitly recognized that the habits with which education deals are not simple, but complex things, and are not uniform but variable. He uses the phrase "training in method" without demur. Is there really any great gulf fixed between this and the views of Thomas Arnold on the value of classics, or of Whewell on that of mathematics, or of Huxley on that of natural science? If we could have explained to Arnold or Whewell on Huxley what was meant by saying that transfer was effected through meanings, would they have denied it?

Some of the identifications are exceeding hard for anyone in this country to follow. The old classico-mathematical curriculum is treated as in its nature aristocratic, and aristocratic education is something which assumes fixity in the social order and seeks to prevent the pupil's mind from contemplating change. No one denies that the higher education of the early nineteenth century was classical and was also largely inaccessible to the working classes; but, if we turn to the seventeenth century, we find that the typical "modern" curriculum was that of the French aristocratic academies, while the classical grammar schools catered for a much humbler class. And it would be somewhat remarkable that any body of persons who were looking out for a subject of study which would produce an impression that "whatever is" in human society "is right," should have chosen Plato's "Republic" for their purpose! We prefer the opposite view that the great classical revival of the early nineteenth century owed much to those who realized that they were living in a changing world and regarded the thought of ancient Greece as the best available medium for accomplishing what Professor Bode regards as the aim of "democratic" education. It would, we venture to think, have



been better if he had used the word "progressive" for the more limited word "democratic" as expressing the basis of the education which he desires. Progressive early Victorians were undoubtedly heading for democracy, but they were hardly within sight of it; yet they saw the need of an education which should produce men capable of adjusting themselves to change and capable of initiating it. And it would be difficult to see in what sense Fundamentalism, which evidently has alarmed the author concerning the effective range of American education, though it is an attitude opposed to free criticism of existing beliefs, is aristocratic. Democrats living under an aristocracy desire a change, but is there anything in history to suggest that democrats who have got control are less subject to the law of inertia than all human beings as such?

The chapter on tests is less satisfactory than other chapters of the book, for the author is obviously not prepared to maintain that men are born equal—in intellectual or moral or practical potentialities—and, if he makes this admission, it is of little importance to his general argument how far the tests, as at present worked, reveal the inequality.

We are profoundly sceptical of the "new integration of culture and vocation," if we understand it aright. Professor Bode's complaint seems to be that, by keeping apart vocational and cultural education, we may produce a company promoter who enjoys music, but whose love of music leaves him none the less an anti-social pest. Surely Dr. Maxwell Garnett's conception of a hierarchy of purposes expresses the truth better: the man is unified only by the subordination of some purposes to others. His skill and knowledge in themselves are not affected, but they become means to different aims. We cannot see how the moralizing of a boy who is going to be a greengrocer is going to be effected in a radically different way from that of a boy who is going to be a banker; in fact, it will be well under way before we know what he is going to be. The wider purpose, in fact, in a sound education would be there before the vocational purpose appears, and the latter should from the first be subordinate. Without the hierarchical idea we might as reasonably speak of a "new integration of God and Mammon."

The book will probably commend itself to most English readers as an effort to revive the conception of education as something which develops initiative and critical power and to sweep away a system of psychology which denies that such a development outside some highly specialized field is possible. But they will be dissatisfied that, at the end, we are left with a destination, but without a route. They will further recognize Professor Bode as an able advocate of disciplinarian views (sufficiently disguised to escape the heresy-hunters) which make for democracy (along with other desirable aims) just so far as democracy is sound.

R. L. ARCHER.

## **Delinquents and Criminals: their Making and Unmaking.**

**By William Healy, M.D., and Augusta F. Bronner, Ph.D. (New York, 1926 : The Macmillan Company. Pp. x+318. Price 15s. net.)**

ANY inquiry into the problems of delinquency involves a preliminary consideration of the ends which are supposed to be attained by the infliction of punishment. There are, of course, those who maintain that the object of punishment is retaliation, or (as the holders of this view prefer to put it) the satisfaction of the "outraged majesty of the law." This view, which ultimately implies the infliction of precisely similar penalties in all cases of similar offences, is not very prominent to-day. The popular view of punishment is that it should be deterrent to others, and deterrent and reformatory to the offender himself. How far are these ends attained by our present system? The authors of this book apply themselves to the provision of an answer to this question. Their work is based upon the intensive study of 4,000 cases, in Chicago and Boston, the cases being quite unselected, except that they were repeated offenders of juvenile age.

In most lines of work an investigation of the material dealt with would be regarded as a necessary preliminary. This rule does not hold in connection with offenders. We have become so accustomed to the existence of the offender in our midst, that we have made no serious effort to investigate his nature, or to discover why any particular person becomes a delinquent, or to elucidate the correct treatment of such a person. Any number of theories as to the delinquent have been put forward, often with a view of supporting some preconceived opinion. Statistics have been compiled without regard to the necessity for adequate controls. But until the publication, in 1914, of Dr. Healy's monumental work, "The Individual Delinquent," very little attention was paid to the proposition, first enunciated by Lombroso, that the offender deserved study in himself, and quite apart from any particular offence which he might have committed.

What, then, have Doctors Healy and Bronner to tell us as to the nature of the offenders with whom they are dealing? What were the causes which produced the anti-social actions of these young men and women? No definite relation between delinquency and heredity was found. The social situations created by unfit parents were, naturally, of the utmost importance. Disorganized home conditions existed in a high percentage of cases. The size of the family appeared to be of little moment. No physical findings, except over-development in girls, were of significance. The theory that carious teeth are of much moment as causative factors of delinquency received no support. Among delinquents, the mentally abnormal, both defectives and psycho-paths, appeared much more frequently than in the general population. But this last finding must not be unduly stressed, inasmuch as 70 per cent. of the examined offenders appeared to be quite normal mentally. On the vexed question of the incidence of mental conflict the authors are disposed to take a cautious line. Definite conflicts, acting as a causative factor of delinquency, were found in 6.5 per cent. of the cases. But the authors



regard it as probable that many a conflict remained undiscovered, and they urge the absolute necessity of further investigation in this direction.

What were the results of the treatment applied to these young people? Here the authors have a sorry tale to tell. Among those in whose cases sufficient time has elapsed to allow of an adequate "follow-up," there were found to be 61 per cent. of failures among the males and 46 per cent. among the females. The better results obtained in the latter case appear to be due to the interesting fact that marriage often has a reforming influence upon the delinquent girl, and especially when her delinquencies have been of a sex character. The figures for failure are appalling, and provide a grave indictment of the methods in use, whether institutional or probationary. The authors hold the view that the lack of success has been due to quite insufficient individualization of the treatment. It will, no doubt, be urged that the results were bad because the material was bad. It was for that very reason that the material was placed under treatment. No general hospital would attempt to palliate poor results by making the excuse that all its admissions were sick people. There are certain differences between Chicago and Boston. And it may be that we could produce figures which would show better results in this country. But we must make no such self-satisfied claim until such time as we have investigated a similar number of cases with the meticulous care employed by Doctors Healy and Bronner.

What of the prognosis in any special case? What factors determine success or failure? The authors' data lead to the conclusion that, as with causation, continuance in delinquency does not depend upon any single factor. How society meets the issues presented by the individual case is the most important point. Due weight is given to the strong anti-social grudge often produced by imprisonment, and the disastrous results which may occur therefrom.

And the conclusion of the matter, as the authors are not alone in urging, is that there is need of a new conception of the nature and the proper treatment of delinquency. We must abjure our present unwarranted concentration upon the mere facts of any particular offence. We require much fuller investigation of the offender before we dare to deal with him. If it is found necessary to send him to an institution, we require much greater flexibility of treatment within the institution. All this implies the employment of a sufficient number of duly qualified workers. But the expense involved would be trivial, as compared with that which is now occasioned to the community by our delinquents. Probation, also, must be something much more than the mere placing of the offender under the supervision of an, only too often, grossly overworked official. The probation system must be accompanied by carefully devised measures of rehabilitation for the individual concerned.

Those who advocate improved methods of dealing with the delinquent are often reproached with sentimental leniency towards him, and with ignoring the protection which society may justly claim against him. The reproach is quite unjust. No one can realize the gravity of the problems of delinquency more fully than those who are daily dealing with delinquents. It is just because society is, at present, most inadequately protected that a change is pleaded for.

M. HAMBLIN SMITH.

## Book Reviews.

**Everyday Problems of the Country Teacher :** by Frank J. Lowth. (The Macmillan Company. Pp. 563.)

The author's purpose, as stated in his foreword, is "to supply a guiding reference book on many of the problems of the average rural teacher"—the rural teacher under reference being of the American type. Consequently there is much in this book which treats of conditions foreign to, or at least inapplicable to, the English country teacher. In considerable measure Mr. Lowth, who is the Principal of Rock County Rural Normal School, Wisconsin, obviously has in mind a teacher-type professionally less well-equipped than the average student who has just left an English training college, for he devotes much elementary treatment to such topics as the arrangement of the classroom, "the school beautiful," the "hot lunch," suggestions on treatment of pupils, co-operation between parent and teacher, and so forth, in such a manner as the ordinary training college lecturer would have informally discussed in tutorial classes, or maybe more generously and tactfully relegated to students' common-sense than for formal handling in a text-book. Nevertheless, Mr. Lowth has undertaken in a highly conscientious manner the task of compiling an encyclopædic compendium assuming, apparently, that his readers start *de novo*. Had he perhaps restricted the scope of his book to specific reference to rural requirements we incline to believe he would have achieved his task more successfully, for a large proportion of this volume appears to be of general import equally suitable for the urban teacher. Possibly he agrees with a certain Director of Education for an English County Authority who remarked recently that he never trusted himself to think in terms of the "country school" or the "country teacher," but rather of "the school and its teacher," since, given a teacher possessed with ready outlook, he or she would provide all the necessary rural fashioning for boys and girls.

Mr. Lowth has written in particular two thoroughly good chapters on "Measurements of Mentality and Achievements" and "Problems, Projects, and Motivation," and we congratulate him on having presented in some forty pages a strikingly clear and readable account of that difficult topic of mental measurements. He is reminiscent of his American colleague Bagley in his emphasis on motivation: "School work," he insists, "is motivated when pupils work because they want to," also equally "Bagleian" in his insistence that "children must be trained to do disagreeable tasks which they would rather not do," which reminds us wisely that the teacher should not worship solely at the shrine of the fickle goddess of interest. Somehow we incline to think that the country child does more spontaneously attack those ordinary tasks of everyday life which the urban child usually regards as irksome, for the rural home approaches more nearly the idea of a commonwealth in which each member contributes to the common weal. What Mr. Lowth strongly desires, and rightly, is a motivation of the rural pupil to take a wider interest in what is in one sense a restricted and very familiar environment. Some of his readers will hesitate to accept whole-heartedly his doctrine in regard to knowledge when he states: "How much more important is the development of ideals, attitudes, habits, tastes, likes and dislikes in making a living and in making a life?" We will not entirely part company with Mr. Lowth, yet we are reminded of Plato's warning on persons who hold mere opinion "but have no real knowledge of the things about which they opine." Real knowledge must surely be the foundation on which the pupil should be disciplined to base his ideals, likes, and dislikes.

The author has our grateful appreciation for presenting (Chapter 3, Section 1) to the young teacher in rural districts some extremely useful hints on her personal hygiene—e.g., sleep, work, and worry—and some very practical suggestions on budgetting for her expenditure and savings—very sound advice for the teacher just out of college and left, perhaps for the first time, solely to her own devices. For it is so frequently the absence of anyone in the village to whom she can appeal for advice, and a dread of sinking gradually into physical and mental torpor, so falling short of her college ideals, which makes her desire the social advantages enjoyed by her friend in the town school.

A last point: Page 127 provides a daily programme for a one-teacher school, but no provision appears thereon for singing, handwork, and nature study. It may be doubted if an English L.E.A. and H.M.I. would approve of the exclusion of these subjects in a rural school programme.

H.S.C.



**Curriculum Problems :** by T. H. Briggs. (New York : The Macmillan Co., 1926. Pp. xiii+138. 4s. 6d.)

Professor Bagley, as editor of the "Modern Teachers" series to which this little book belongs, points out in the preface that in the United States there is a conviction that sweeping changes are necessary in the curriculum if the schools are to justify themselves in the eyes of the State. Thirty years ago professional interest, as reflected in educational discussions, was largely in methods of teaching, a dozen years later the measurement of educational processes and products seemed all-important, and now it is the materials that are beginning to be discussed as of enormous importance.

Professor Briggs puts forward in his first chapter twenty-seven questions or more, discusses them, and leaves them as being unanswerable at present. In doing so he draws attention to the importance and complexity of the curriculum problem, touching as he does on such questions as the desired ends of education, the ends for which the public school is responsible, bases for selection and organization of subject matter, relative importance of different courses of study, optimum length of school day and year.

The second chapter is of great interest. It is called "Emotionalized Attitudes," and points out that the school teaches attitudes whether we will or not; attitudes towards particular subjects, particular ideas and attitudes towards life in general. The less haphazard the development of these attitudes the better.

In the third and last chapter the author deals with mores, i.e., unreasoned folk habits, group habits, and proposes a programme for using these as a factor in the larger education.

The task of curriculum improvement is as unending as are the changes in society, and in the pupil population, and in a rapidly changing world it would be well to have a firmer basis for our curriculum than that of mere tradition.

As Professor Briggs says, it is indeed "a strangely neglected field," and this is perhaps even more true of England than of the United States. F.M.R.

**The Mind and its Mechanism :** by P. and W. R. Bousfield. (Kegan Paul, Trench, Trubner, and Co., Ltd., London. Pp. vii+224. 9s. net.)

The authors have been theory-weaving, and present us with yet another attempt to evade the difficulties of the concept "mind." They introduce "the hypothesis of a 'physic structure' other than the mind itself, which shall perform some of those functions which the material brain is not capable of performing" (page 41). This psychic structure is "real" and "an essential part of the organism" (page vii), and from analogy with the "material brain" is described as the "physic brain," composed of "psychoplasm," instead of protoplasm, and ultimately consisting of "psychons"—entities "in all respects analogous to the 'ons' which constitute matter except that their mass is so much smaller that it is at present inappreciable by physical methods" (page 112).

This "psychic brain" is a tool of the mind: a sort of half way house between the "material brain" and the "mind's eye." It is a "mechanism" which the mind uses. It presents pictures to the "mind's eye" and is in touch with the material brain through ether waves. It replaces the "mental structure" of general psychology and the "unconscious mind" of psycho-analysis. It is a more tangible concept than they. "Psychons," in fact, are conceived "as being in the physical realm" (page 23).

The development of the theory occupies the first eight chapters. Its application to psycho-analytic and allied studies occupies the remainder of the book. The "psychic brain" being a "mere organ of the mind" the "unconscious mind" is a term resulting from a confusion of ideas. The "unconscious" consists of the "mnemonic" store of "psychograms" within the "psychic brain" and includes complexes and other determinants. Freud's capricious "censor" is unnecessary and inadequate. In his place we have opposing determinants, repressive in action, and, on the analogy of antitoxins, termed "anti-psychograms." These anti-psychograms are created by instinctive reactions, by suggestion, and by voluntary effort.

Telepathy is accepted as a fact and finds ready explanation. The "psychic brain" is thrown into resonance by ether waves coming from sources other than the material brain of the individual. The Lamarckian theory of evolution is accepted—acquired characteristics being transmitted through the psychoplasm of the germ

plasm. Hypnosis however, presents a little more difficulty. The "blank mind" state is particularly open to suggestion, and in consequence the "judex" is put out of action.

We have passed beyond the "psychic brain" to the mind, for the "judex" is a personified "attitude of mind"—the attitude of mind of a judge who arrives at a conclusion upon all the data (page 39). Now the authors are not concerned with mind. They "leave to philosophers the task of speculating on the constitution of the mind." Yet they leave to the mind some very important functions. It "is stirred by emotions of love, hate, fear, anger, jealousy, admiration, and so on; it entertains beliefs, prejudices, ideals, conditions; it thinks and judges" (page 27). Hence, when we have finished with the mechanism that presents material to the "mind's eye" we have covered a very small portion of the domain of psychology, although apparently, in the opinion of the authors, we have dealt successfully with the little field that has given such luxuriant growth of late years—the field of psycho-analysis.

We are somewhat surprised to find that "feeling" is treated almost as epiphenomenal. "Feeling itself is the recognition in consciousness of a flow of energy." The explanation appears to be that it can find no place in the psychic brain. "There is no psychogram of the feeling" (page 37.) We suggest that a more adequate treatment of feeling is required even in the field of psycho-analysis.

Similarly volition would seem to call for fuller treatment. At critical points in the argument its intervention is recognized. Its source, however, is not the "psychic brain" or the "mind." The source is "behind" the mind (page 27). Apparently it is a property of "the ego" and we do not seem to have progressed very far from Ward's "the self" with "one faculty, attention" and "one capacity, feeling."

The book will probably be a useful corrective to the theories of those who, having approached psychology down the avenue of the biological sciences, are in the habit of presenting "the facts of psychology . . . in a framework of physiological structure" (page vii). It concerns itself, however, with but a limited selection of "the facts," and those who are accustomed to a wider outlook may be disposed to question the wisdom of founding a theory of the "mechanism of mind" on the theory of the physical ether. It is possible that physicists may shortly find a satisfactory method of dispensing with the services of their heavily worked slave—the ether.

R.J.B.

**An Introduction to the Study of Education and to Teaching :** by Ellwood P. Cubberley. (George G. Harrap and Co. Pp. xviii+476. 7s. 6d.)

This book by the Dean of the School of Education in the Leyland Stanford Junior University has been written with a view to giving to the student an introductory general survey of the subject of education impossible to obtain in American university courses, where sub-division and specialization in this subject has been carried out to a high degree.

The book gives an outline of the history of American education, followed by an account of its organization at the present day. After dealing with the work and training of the teacher, the author passes to the psychology of the child and the application of this to education. Finally, some present-day problems and developments in the field of education are treated in more detail.

The survey, covering as it does a very wide area, is necessarily brief as regards any one aspect, but an excellent general idea is given of the organization of American education to-day and the peculiar difficulties and problems involved. The book will naturally be of especial interest to American students, but to English readers it will also be useful as affording the means of comparing the evolution and organization of American education with our own. Mr. Cubberley's book, however, is written too exclusively from the American point of view to afford a useful *preliminary* survey for English students of education. Moreover, it is the history and organization of education, especially the latter, that are dealt with most fully, while psychology (though admitted by Mr. Cubberley to be fundamental in the study of education) and the applications of psychology receive somewhat scanty treatment, even for an introductory book.

Chapters XIV, XV, and XVI, dealing with scientific school classification, curriculum re-organization, and new social relations of the schools, may be singled out as being of especial interest.

E.S.



**The First State Normal School in America :** The Journals of Cyrus Peirce and Mary Swift, with Introduction by A. O. Norton. (Oxford University Press. 285 pp. Index and Bibliography. 15s. net.)

A collection of extracts from the diaries of two pioneers in the cause of professional training in Massachusetts, exposing something of the struggles made by Peirce in educating a sceptical public to the opinion that the training of teachers was a necessary service to be rendered by the State.

Peirce's journal is made all the more interesting by the fact that in England the problem was being vigorously debated about the same time, though a somewhat different solution was reached. In America there were many sets back, not the least distressing to Peirce being caused by the unsuitability of some of his trainees for the work proposed, and one also suspects them of disloyalty to him ; in certain instances they were apathetic and even openly hostile. A committee on education of the legislature regarded normal schools as a menace to local self-government, though fortunately for the schools a reasonable minority seem to have gained favourable consideration for them at last. G. B. Emerson looked for them to lead to great things, as a letter printed at the end of the present volume testifies. Samuel G. Howes was equally favourably disposed towards them. But diaries disclosing the inner feelings and aspirations of pioneers do not invariably afford happy reading. Peirce must have experienced much disappointment and but little joy in the course of his work at Lexington, except such satisfaction as he may have derived from knowledge of good intention and high effort ; the closing entry, Friday, March 12th, 1841, while regretting an imperfect day, concludes with what must have afforded him satisfaction in the recording that two of the thorns in the flesh had withdrawn from the institution. Soon after this Peirce resigned with the feeling that his efforts had not been in vain, and that the experiment in training had vindicated itself.

Mary Swift was one of those of Peirce's pupils who made good. Her Journal is a serious compilation, rather verbose, at times ponderous, but scintillating with little bursts of humour. It makes a natural complement to Peirce's notes, showing how effective his teaching was. She records her impressions of the addresses to which she listened and of the conferences in which she took part. She shows independence of thought and criticism ; some of her comments are amusing—for example, when she refers to the disagreement between the pleasant sensations after ice-cream and the principles of physiology, ice-cream obviously carries the vote !

Like many disciples, Miss Swift probably saw defects in the master ; here and there she gives clear glimpses of Mr. Peirce, and suggests, though quite unconsciously, why he did not attain the entire success to which he aspired. Christmas Day at Lexington in 1839 reflects the austere thought of the early settlers. It can have held but little joy for the twenty and five students at the institution ; the study of arithmetic, natural philosophy, and Combe's " Constitution of Man " does not fit in with the usually accepted ideas of a " happy " Christmas ! As the school was budding in the period of phrenologic and faculty psychology, we get quaint peeps at the " principles " of education current at the time. Miss Swift was an intelligent and interested pupil, one of three or four at the time in the school, and no doubt she got a great deal out of her course there. However, one cannot but think life at Lexington must have been rather drab on the whole, nor can one wonder the system had its critics. In course of years training became general and methods changed for the better, as we think. The volume under review throws light on pioneer work, and records important national service rendered by a self-sacrificing teacher—Cyrus Peirce !

A.P.B.

**General Social Science :** by Ross L. Finney, Ph.D. (Macmillan and Co., Ltd. Pp. 459. 7s.)

This book, designed for pupils in American junior high schools, contains much that will be of value to English teachers both in illustrative material, in suggestions at the end of each chapter, and in the range of topics regarded as necessary for study by pupils aged about fifteen, in order that they may take their place not merely as members of an organized state but as members of society.

In many directions the author succeeds in showing how basic material often regarded as too difficult for pupils of this age can be presented in a way which is effective.

**An Adventure in Moral Philosophy :** by Warner Fite. (Methuen and Co., Ltd. 273 pp. 10s. 6d.)

This "adventure" is a brave attempt to convince us that the moral life is, as the Greeks said long ago, an art rather than an applied science; that it depends on individual insight into the concrete situation, not, as on the authoritarian view, upon conformity to standard; that it is to be created by the intelligence of an artist, rather than by the deductive logic of a scientist. It follows that virtue is knowledge, and not habit, it can be encouraged but not taught. In this view concepts which figure large in most of our standard ethical text-books, such, for instance, as right, duty, principle, law, punishment, lose significance, no man can blame another for his conduct, however much he may dislike it, nor regard it as anything but moral, however contrary to ordinarily accepted standards, provided its author has acted consciously and responsibly (in the etymological sense of the word). Degrees of morality correspond with degrees of intelligence.

Since artists in morality are unlikely to exist in greater proportion than artists in other fields, it would appear to a superficial imagination that chaos will descend upon the society whose members set out upon the adventure. Further reflection should reassure us. Does not experience of life suggest that in spite of commonly accepted principles, in spite of the categorical imperative of a Kant or the ten commandments of a Moses, we can never quite rely on a man's behaviour when he is faced by the complex situation? Indeed to go no further back than our contemporaries, our modern authors and playwrights seldom lose an opportunity to expose the unloveliness of conduct in accordance with rigidly conceived and rigidly applied principles, as compared with the beauty of perhaps less orthodox conduct, that fits the situation.

There is nothing in this book to suggest that the Christian virtues (confirming and supplementing the Greek virtues as they do) are in danger of losing pre-eminence—every art has its principles behind it, morality no less than others. This point might perhaps have been made clearer. Professor Fite makes no claim to originality, for though Kant may have mistaken "Duty for a Prussian Drill Sergeant," Shaftesbury, the most Greek of modern ethical theorists, regarded morality as "The taste of beauty and the relish of what is decent," and many before and after him held the same view. With this latter view the Professor would agree—authority, he urges, is useful and socially convenient, but has nothing to do with morality. He suggests, at least by illustration, that the man of insight will find the moral qualities much the same as those commonly accepted, though the place of authority be different, for instance the Macchiavellian, and the lying tradesman, in his view, lack intelligence, therefore their conduct lacks moral value.

Some will find the teaching of this book suggestive, many may find it dangerous; but is the criticism of the many necessarily adverse? Life must always be a great adventure with risks on every hand. M.H.

**Statistics in Psychology and Education :** by Henry E. Garrett, Assistant Professor of Psychology, Columbia University, with an Introduction by R. S. Woodworth. (Longmans, Green, and Co., New York. 1926. Pp. xiii+317. 15s. net.)

This excellent text-book (it is a pity that it costs 15s.) has the usual sections on tabulation, measures of central tendency, of variability, graphical methods, reliability, correlation, partial and multiple correlation, and other sections, and, in addition to numerous examples through the text, has a final chapter on applications. Extremely useful are Table xxviii (the complete solution of a four variable correlation problem) and pages 288 to 298, on the interpretation of a coefficient of correlation in terms of overlapping. The summaries of formulæ at the end of each chapter are also worthy of commendation. As far as the reviewer has checked the accuracy of the book, he has found it worthy of the high standard that we expect in this connection from Professor Garrett. The diagrams are clear and helpful. In the pages on calculating a correlation coefficient (round page 167) the reviewer would have liked to see more emphasis laid on the method of diagonal adding, which in his experience is more practical than multiplying by the product moments of each cell; and pages 168-9 give the erroneous impression that the "gridiron" method of Diagram XXI and the straightforward tabular method of Table XVII are necessarily bound up with the use or otherwise of a "guessed average," which is not so. But these are details in a capital book. G.H.T.



**Directing Mental Energy :** by Francis Aveling. (University of London Press. Pp. x+269. 8s. 6d.)

In his introduction the author states that the purpose of this book is to show how the most may be made of life, not in the moral or metaphysical sense, but rather in what might be called the economic sense, by the directing and economizing of mental and physical energy. In actual fact the book represents an attempt to apply to the practical problems of everyday life the main results of modern psychology. The attempt is highly successful, and the result is a notable addition to the far too meagre list of reliable works on psychology which the teacher, the business man, and the man in the street may read with interest, understanding, and profit.

The nature and scope of the treatment are well indicated by the respective titles of the thirteen chapters. These are: "Waste," "Waste in Human Energy," "Waste in Bodily Energy," "Fatigue," "Waste in Mental Energy," "Memory," "Mental Tests," "Vocational Guidance and Selection," "Emotional Wastage," "Will Wastage," "Ideals, Will, and Character," "Disturbance and Sublimation," and "Games and Play." There is also an appendix on "Psycho-physical Theories," and a bibliography of recent books and papers, which should prove an invaluable guide to the general reader.

In all the chapters an admirably clear account is given of the psychological problems involved, the methods of study adopted, and the main results and conclusions arrived at, while the practical significance of all is throughout emphasized. The easy and lucid style of the author is apt to give a somewhat erroneous idea of the real difficulty of the task he is performing. Anyone who has attempted to present in an accurate, and at the same time popular, way the leading results of modern experimental psychology will realize the difficulties involved, and will appreciate the apparent effortlessness which is characteristic of Dr. Aveling's performance.

The presentation in simple language of Spearman's "principles of cognition" in Chapter V deserves special notice for the manner in which the author works out the practical implications of these "principles." The same clearness of exposition which characterizes the book as a whole is exhibited in the discussion here, and the result is a chapter which the general reader and the teacher will find unusually interesting and serviceable. Another chapter which calls for special notice is Chapter X on "Will Wastage." In this chapter there is a very striking discussion of the "psycho-galvanic response," and the interesting view is put forward that this is a phenomenon of conation and not of feeling or affection, as has been generally supposed. Whether we agree with the author or not, this view is at any rate an interesting one. If it is valid then we appear to have in the "psycho-galvanic response" a new and valuable method for the experimental, and quantitative, study of conation.

The selection of these two chapters for special remark must not be taken to imply that they represent a higher level of performance than the rest of the book. The whole book is indeed excellent, and we can warmly recommend it to readers of every kind who desire to gain a knowledge of the recent results of experimental psychology, and the practical bearing of these results. J.D.

**Education at Work :** edited by H. Bompas Smith. (Publications of the University of Manchester. 166 pp. 7s. 6d. net.)

This book describes administration in certain fields. First there is the development of the University of Manchester; then the social aspect of education in an industrial area. As this is from the pen of Mr. Spurley Hey one finds an enlightening account of what is being done in the area he knows so well, towards making the system work efficiently and beneficially. Mr. Perkins' picture of the village school is not a line overdrawn, and serves to call attention to remarkably important problems for whose solutions the best minds should be directed. Rural education has received too little attention so far; trainers of teachers may well envisage this side of the field. Adult education is surveyed by Professor Cavenagh, and Dr. Crofts contributes a very clear account of the work of the Joint Matriculation Board, in which, perhaps, not the least interesting and consoling part is that disclosing the attempts to nullify many weaknesses inherent in an examination system. Professor Bompas Smith has concluded this volume with an optimistic chapter on the working out of education in future. Here we find stress is laid on a combination of individual with social aims, of democracy, and the art of playing the game in national life. A.P.B.

**Some Primary Methods :** by L. G. Sloman. (Macmillan. Pp. ix+293. 7s. 6d. net.)

Written by a teacher of considerable experience, this book gives practical advice on a variety of subjects to younger and less experienced teachers. Though primarily addressed to American teachers and dealing with many problems which are peculiarly American, it yet contains much that might be helpful and stimulating to the British primary teacher.

The introductory chapter gives pertinent personal advice under the heading "What do you know about yourself, and your work?" Much of this, though sound, depends for its value on the charm and tact of the speaker to her class, and is apt to jar when put into print. Answering the third part of the question—"What do you know about your children?" the writer describes many "instincts" which are not accepted as such by the modern psychologist. "A rose by any other name would smell as sweet," however, and one is inclined to think that mere terminology matters little in an elementary treatise, so long as the writer gives a sufficient account of the needs of children on which to base the succeeding chapters on method.

The English teacher has much to learn from America with regard to the use of "projects" as a stimulus to work for young children, and Mrs. Sloman's chapter on "projects or class activities" is most helpful and suggestive. The chapter on reading is thorough-going and sound, and full of practical hints likely to be helpful to every teacher of infants and the lower standards. Arithmetic and language receive less complete treatment, but are handled in an interesting and suggestive manner.

"Study-seatwork"—a term unfamiliar to most English teachers—is the heading of a chapter of material which might have been included under the head of projects, arithmetic or reading respectively, since it deals with the development of these activities on individual lines.

Perhaps the outstanding note of the whole book is the insistence throughout on purpose and motive for the child, in relation to all school activities. Mrs. Sloman has done something for the children in stressing this need, and she lightens the task of supplying it for the young teacher by her numerous practical hints and illustrations.

L.E.S.

**Report of the Fifteenth Annual Conference Educational Associations.** (Pp. 418. 4s. 6d. Obtainable from the Conference Secretary, Miss M. A. Challen, 29, Gordon Square, London, W.C.1).

The Annual Conference is now an assured institution, and the gathering together of so many and such varied associations connected with education is an index of the enthusiasm for various kinds of progress in education, though of course, in no sense does it represent a unified system of views on education. Indeed, the essential function of these many and varied societies is to work out certain special aspects of educational advance. We may say, however, that an impression of unity is gained in the spirit of freedom and reform which breathes through nearly all the expressions of the many points of view. This volume gives an admirable and concise account of the many meetings held in January, 1927. In some cases the reports have had to be abbreviated. A number of valuable discussions, however, are reported verbatim. Among so many topics it is difficult to select a representative group, but the reviewer's own interests lead him to call special attention to the address of the President, Sir Henry Miers, on "The Choice of What is Good for Others," which reveals this eminent scientist in philosophic vein; the important address by Sir Robert Blair, entitled "Retrospect, the Movements which have Brought the National System of Education to its Present Position," a most welcome contribution from so experienced an administrator; the discussion on "Industry and the Elementary School," in which Alderman George Cadbury, Lord Riddell, and Mr. T. G. Tibbey took prominent parts; the joint conference on "Voluntary Enterprise in Education," including speeches by Miss Adler, J.P., Mr. R. W. Ferguson, Dr. Rouse, Miss Mellish, and Mr. Arthur Rowntree: and the convincing paper by Sir George Hunter to the Simplified Spelling Society, followed by a remarkably full analysis of the saving of money which might be effected by spelling reform, given appropriately by a speaker from Scotland.

C.W.V.



**Social Problems and Education :** by Ernest R. Groves, Professor of Sociology, Boston University. (Longmans, Green and Co. Pp. 458. 12s. 6d. net.)

This volume is evidence that American thinkers are realizing that teachers should see their school problems against the background of the larger social situation. It is concerned with American social problems most intimately related to the work of the schools, e.g., juvenile delinquency, crime and penal reform, mental defect, conditions influencing family life, the unmarried mother, settlements, public health, immigration, race friction, rural life, and social unrest.

For the plan of the book we have nothing but praise ; actual problems are discussed and the function of the school in relation to them is made clear. Our only regret is that the data are American instead of being English. In spite of this teachers in this country will find many valuable suggestions in it. Its publication should inspire someone to write a book on similar lines based on our own social problems.

A.E.C.

**Psychopathology :** by Bernard Hart. (Cambridge University Press. Pp. 153. 7s. 6d. net.)

This book consists of three lectures on the development of psychopathology and two others on the psychology of rumour and the methods of psychotherapy. For the student of general psychology the first three are the most valuable, particularly for their important and acutely reasoned estimate of the value of the method of psycho-analysis as a truly scientific method of study, or at least as affording facts for psychological study. Dr. Hart's position is that while the earlier work of Freud and his followers is adequate to establish some of the main contributions of the psycho-analytic school (though not necessarily all their interpretations of them), much of their work, and especially the most recent work, is invalidated by the danger of the analyst suggesting his own ideas to the patient in the course of the latter's reports and recollections. A section of special value in the book deals with the varying significance and the possible justification of the terms unconscious and subconscious.

The book is written with that admirable clearness and sanity that one has come to expect from this authority on insanity.

**The Problem Child :** by A. S. Neill. (Herbert Jenkins, Ltd. Pp. 256. 5s. net.)

In this book the author of the Dominie Series attempts to show how unhappiness arises and how it ruins human lives.

He speaks with authority in respect to treatment, for he shows how he dealt with cases of difficult children in his school in England and abroad.

As might be expected, Mr. Neill puts forward many daring and provocative truths. He believes that the child is never in the wrong, and he considers that every case he has handled has been a case of misguided early education. His chief work, he claims, is to sit still and approve of all the things that a child disapproves of in himself.

There is a most interesting account of the founding of the International School of Hellerau, near Dresden, of the compulsory departure to Vienna, and later to Lyme Regis. Few books, filled with sound common sense, as this one is, are written with such humour and charm.

F.M.R.

**The Child in the Changing Home :** by C. W. Kimmins, M.A., D.Sc. (Herbert Jenkins. Pp. 123. 2s. 6d.)

Dr. Kimmins deals with a subject which has recently become of the greatest importance in a manner that is at once wise and sympathetic. He outlines the more striking changes that have appeared in home life during the past twenty years or so, and shows not only the dangers, but the advantages of these changes. At the same time we are given an excellent sketch of the more fundamental aspects of child life, and a strong plea is put up for recognition of the child's right to develop in his own way, and so to make the best of his capacities and intellectual qualities.

The book is written for the lay reader. Parents in every walk of life could study it with pleasure and profit, while educationists will find in it many helpful suggestions and much food for thought.

**Auto Education Guides, No. IV :** A.B.C. of Development through Senses and Muscles : by Jessie White, D.Sc. (Auto-Education Institute. 32 pp. 7d. net.)

A careful explanation for parents and for teachers of children of pre-school age, of the value and use of the Montessori material for muscle and sense-training. The writer describes each piece of apparatus and gives instructions for its use. This instruction is prefaced by a discussion of the difference between the Montessorian point of view and those of the various classes of its opponents, a discussion which the writer closes with the statement that sense-training as Montessori understands it justifies itself by its results. The need for such a pamphlet is vindicated by the author's closing statement that "those who support this postponement of pedagogic aid in school (i.e., school life not beginning till five years of age) ought to leave no stone unturned to teach fathers and mothers how to give it in the home."

**The Memory Factor in Biology :** by C. J. Patten. (Ballière, Tindall, and Cox. Pp. viii+175. 5s. net.)

The author presents in book form a selection of popular lectures and addresses given by him to various societies. He holds the view that if memory phenomena are to be explained on rational grounds it is necessary to postulate the presence of a psychic side in all living things. It is, he maintains, necessary not only to study the organism, however lowly, both morphologically and physiologically, but also to study it from the "attitude of a reasonable vitalist rather than of a dogmatic mechanist."

**Eugenics :** by A. M. Carr-Saunders. (Home University Library, Williams and Norgate. Pp. 256. 2s. net.)

We know of no better introduction to the subject of eugenics—as a science rather than as a social movement—than this little book. The emphasis is upon the facts of heredity rather than the possibilities of control, though this is dealt with cautiously but suggestively in the last chapter.

**Where State Education Fails :** by Lucie Simpson. (G. Routledge and Sons, Ltd. Pp. 192. 5s.)

From the title one expects a careful analysis of State education. The book is disappointing. The author is obviously sincere in her condemnation of much that she observes in schools, but her book leaves the impression that she has not critically examined the implications of her own statements. Who would accept her statement, page 22, that the sincere desire to help their charges will show teachers the way?

In the Introduction, page xiii, there is the astonishing statement that one of the primary purposes of national education is all round training, with a view to the child remaining one of the class from which it springs.

The concluding sentence of the book suggests that though she has referred again and again to English schools she has American systems in mind. A.E.C.

**Chimpanzee Intelligence and its Vocal Expression :** by Robert M. Yerkes and Blanche M. Learned. (Williams and Wilkins Co., Baltimore. Pp. 157. 16s.)

Although this book has been published some time, we have only recently received it, and it is well worthy of notice, in view especially of the increased attention to the intelligence of apes brought about by the translation of Kohler's works into English. The independent enquiries of Yerkes form a valuable contribution to the subject. The second part of the book, mainly by Miss Learned, is of peculiar concern to those interested in the study both of language and of emotional expression by intonation.



**Lord Brougham and the Whig Party** : by Arthur Aspinall, M.A., Ph.D. (Manchester University Press. Pp. xx+322. 18s. net.)

It is a sad fact that students loathe the history of English education in the nineteenth century. One quite valid reason they possess : the prominent figures are usually mere names. This is not true of Dr. Arnold and some other great head masters, nor, since Professor Frank Smith's work, is it true of Kay-Shuttleworth. But what is known of the politicians who would nowadays be called educationists—Whitbread, Roebuck, Forster, and, by far the greatest of them, Henry Brougham ? Unless one has time to read contemporary records, like those of Creevey or Greville, there is little chance of knowing these forgotten celebrities as living individuals. Until the present book by Dr. Aspinall no attempt at an adequate life of Brougham has been made. It is true that Dr. Aspinall gives only a few pages to Brougham's educational activities ; but he does help to make the man live. Of course, that much had been done before by Campbell in his malicious book, by Mr. Attlay, and by Stanley Weyman in " Chippinge," which gives a vivacious, but quite inaccurate, picture of the Lord Chancellor. All these and others (e.g., Miss Martineau) are misleading, and none of them had possession of the facts which Dr. Aspinall discovered. For he has had access to a number of private collections—e.g., those at Chatsworth, Althorp, Lambton, etc.—and he has thus been able to clear up many questions hitherto unsettled. Thus he makes it plain that Brougham was never an ardent supporter of reform ; nor did the passing of the Act owe very much to him. Dr. Aspinall's evidence also proves conclusively that Brougham was not to blame for the fall of Grey's Ministry in July, 1834. " Of his anxiety to uphold the fabric of Lord Grey's administration," wrote Littleton, " there was as little doubt in the minds of all who knew him as there was of his affection and regard for Lord Grey personally." Or, to look at it from another angle, Brougham, although he had ruined his career by becoming Lord Chancellor, was not anxious now to lose office. In the following year Melbourne had the courage not to offer him the Great Seal again, a step which showed political sense rather than gratitude. Dr. Aspinall quotes a letter from Brougham (from the Althorp MS.) which shows the frenzied state of the scapegoat's mind : " I must be a stock or a stone not to be sensible that my treatment affords an instance almost unparalleled of gross injustice. Whether the Ministers have acted from fear of one or two newspapers, or of a set of jobbing members of Brooks' calling themselves the Whig party, or from all these fears combined, is quite immaterial. They have done or submitted to such an act as never yet, I verily believe, was known among men bound together, even by the tie of party, but still more of Cabinet connection." Brougham was, of course, perfectly impossible : he was distrusted not only by his colleagues, but even by intimate friends, like Creevey, who after a time never calls him anything but " Beelzebub " or " Old Wickedshifts." He had the worst temper and the bitterest tongue in England ; he lowered his high office by buffoonery, and insulted counsel as spitefully as he did the House of Lords. He deserved all the punishment that he got ; and yet one can't help feeling sorry for him. So felt a contemporary who had no special bonds with him : " When one thinks (wrote Greville) of the greatness of his genius and the depth of his fall, from the loftiest summit of influence, power, and fame, to the lowest abyss of political degradation, in spite of the faults and follies of his character and conduct, one cannot help feeling regret and compassion at the sight of such a noble wreck and of so much glory obscured." Brougham's career indeed seems at first sight made to adorn a moralist's tale : see how lack of principle doesn't pay. Yet worse occupants of the Woolsack have not fallen so ignominiously ; it is not unknown for them to become subsequently Secretaries of State. It is not so much his political disgrace that matters as the almost complete oblivion into which his name has fallen. At the time of the Yorkshire election Brougham was the most powerful man in the country, whilst his activities were so extraordinary and so multifarious that his reputation seemed secure with posterity. If we are to seek a moral from the life of Brougham it is : Don't put your eggs into too many baskets. He might easily have been among the greatest lawyers, or he might have excelled as a mathematician or physicist ; though his translation of the " De Corona " makes it unlikely that he would ever have been a real classical scholar, yet some of his biographies are quite readable ; surely the finest orator of his day could have cultivated a decent style of writing if he had given his mind to it. Or again, if he had only devoted more of his time to it, Brougham might be remembered as the founder of the English system of education.



Strangely enough, whatever claim Brougham has to memory comes from his work for education, for the establishment of the Judicial Committee of the Privy Council is too impersonal to act as his monument. Yet even in this his actual achievements are smaller than they might have been. His early interest in charities led ultimately to the setting up of the Charity Commissioners, but at the time he was most successful in stirring up bad blood. His various educational bills were abortive; nor is there any evidence, so far as I know, that the parliamentary grant of 1833 was due to him. The Society for the Diffusion of Useful Knowledge did much valuable work in the twenty years of its existence, and its minutes prove that Brougham attended almost every committee and knew every detail of its activities. Yet this survives only as Peacock's "Steam Intellect Society." So again with the London University. The idea was Thomas Campbell's, and he bitterly resented Brougham's getting all the credit, but the "godless institution in Gower Street" would not have materialized without Brougham's powerful backing. Yet at the recent centenary celebrations his name was barely mentioned, if at all. He took a real interest in the Mechanics' Institutes, not only in the London one, but in many throughout the country. The Mechanics' Institutes, however, are all dead, and with them has died Brougham's work for adult education. They backed the wrong horse in supposing that working men wanted technical knowledge, and this mistake is characteristic of Brougham and his passionate belief in the value of information. Even less known is a foundation of Brougham's restless old age, the National Association for the Promotion of Social Science (1857), which had at least one very important result for educational development. On June 18th, 1864, Brougham led a deputation of the association to the Prime Minister (Palmerston) on the subject of middle class education. This led to the appointment of the Schools Inquiry Commission, which had such far-reaching effects on secondary education. Thus at eighty-six Brougham was still working for education. In earlier days his educational activity may not have been disinterested; his adversaries certainly accused him of axe-grinding. And, after all, how can anyone know, without being psycho-analysed, why exactly he is interested in anything? But at eighty-six one cannot have much personal ambition left. My own opinion is that Brougham was quite genuinely keen about popular education, although he used it, as he used the abolition of the slave trade, to further his own political advancement.

Dr. Aspinall's book, as the title indicates, deals with Brougham's political career, and it practically stops, therefore, at 1835. But his work will be of the utmost value to the student of English educational history, since it gives so full and so accurate a picture of the man. The book abounds in useful extracts from sources not easily obtainable, and it contains many reproductions of contemporary cartoons, etc. There is a full index and bibliography. Altogether it is an important contribution to the history of the period.

F.A.C.

**The Vocational Guidance of College Students :** by Lewis Adams Maverick. (Harvard University Press, Humphrey Milford, London. 10s. 6d. net)

This study was accepted at Harvard for a doctorate. It is a comprehensive and illuminating investigation of the various methods suggested or adopted in universities and colleges of the United States for assisting students to make choice of a suitable career; to select the appropriate subjects of study; to place them in temporary employment—where necessary—in vacation, and to find permanent posts for them on completion of the college course.

The administration in this connection is concerned to find out what it can about the student, his identity, social, educational, and vocational experiences and interests; if he has a vocational aim, how he arrived at it, whether it is in harmony with his family situation, his intellect, and the course of study he has entered; if he has no vocational aim, to help him to one; by an intelligence test, mental hygiene questionnaire, and in other ways, to ascertain completely the facts which will enable those concerned to make that personal contact which will make "vocational guidance" a useful factor of educational discipline.

This is a bigger conception of the responsibility of university authorities than obtains in this country. By University Appointments Boards, the publication of information on "Careers," and personal advice given by authorized members of the staff, the British universities go far to solve the problem of vocational guidance as it affects their own students. But those interested in the problem will find much of interest and practical importance in Mr. Maverick's treatise.

J.H.C.



**Economic Success :** by William Morse Cole. (New York: the Macmillan Company. 1926. Pp. 391. 6s.)

This is another attempt to make economics palatable to the young, and particularly to the boys and girls of America, to whom it is dedicated. The approach is somewhat novel in that much space is given at the outset to the conditions for achieving personal success. An effort is made to safeguard against success being conceived in a too materialistic sense. It is defined as fulfilling one's nature, a phrase which is made more precise by distinguishing between "individual" and "human nature," and it is laid down that preference should be given to the dictates of the latter when they are in conflict with those of the former. In this way "true" success is made to rest on moral principles. A long chapter is devoted to an analysis of the qualifications for success, such as health, observation, imagination, courage, originality, knowledge, morality, and religion. Many shrewd points are made under these and other heads, and, lest the boys and girls should despair, they are told in the end that comparatively few people have all the necessary qualities in a high degree. After this review of the conditions of personal success, the author turns to what he calls "impersonal" essentials for economic success—namely, the familiar factors of production, land, labour, capital, and organization. The relation of all this to the first part is not very obvious. The argument, however, is so conducted that the foundations are laid for a defence of the present industrial system. So one is not surprised that in the last section of the book, which is devoted to the question of "improving the social order," the impossibilities of Socialism, Communism, Anarchism, and the Single Tax are insisted upon. The book would probably strike English children as a sustained attempt to preach at them. Teachers would prefer economics to be treated more objectively.

J.F.R.

**The Historical Geography of England and Wales :** by E. H. Carrier. (Allen and Unwin. Pp. 287.)

In this book an attempt is made to trace the evolution of the human geography of England and Wales from the earliest times to the present day. The object is a very praiseworthy one, and it can be said that in some ways the work gives a useful outline of a vast subject. The book must, however, be used with great care, for it cannot be said that the author always presents an accurate summary of the work of various writers in this field of research. Thus in dealing with the Bronze Age the introduction of the metal into Britain is ascribed to broad-headed types from Europe, who entered these islands about 500 B.C. (*sic*), although on the previous page (p. 35) the author states that bronze came to Britain about 2000 B.C. Again, in dealing with the Teutonic period, the evidence now accumulated from the excavations of Anglo-Saxon cemeteries has been apparently overlooked. It is also unfortunate that no references are given, except in a few cases, and in one of these (on p. 281) a mistake has clearly been made.

The study of historical geography is undoubtedly one of immense importance, and one worthy of increased attention, but the fact cannot be too often stressed that accuracy of treatment is essential before any satisfactory advance can be made.

**A Study of British Genius :** by Havelock Ellis. (Revised and enlarged edition. Constable. Pp. xi+395. 17s. net.)

It is a pleasure to welcome a further edition of "British Genius" by such a virile writer and such an enthusiastic student of concrete human nature as Havelock Ellis. The additions to the earlier edition consist of four chapters on "The Celtic Spirit in Literature," "The Evolution of Painting in England," "Genius and Stature" (not very hopeful for the middle-sized); and "The Comparative Abilities of the Fair and the Dark." The author adds these chapters reluctantly, he says, as spoiling the unity of the book, but he need not apologize, for they are all intimately connected with his central theme. And even if "stature" and "complexion" are somewhat uninteresting aspects psychologically, they are not so for anthropology.

**A Treatise on Light :** by R. A. Houston. (Longmans. Pp. xi+489. 12s. 6d. net.)

A new edition of a book which has proved its value by passing through five editions since 1915. This edition has few changes compared with those in previous ones.

**The Construction of Reading Material for Teaching a Foreign Language :**  
by Michael West, M.A., Hon. Reader in the University of Dacca. (Oxford University Press.)

Mr. West's book on Bilingualism was reviewed in the June issue of the *FORUM OF EDUCATION*, and the importance of his claim to bestow a quick reading-power on his Indian pupils was there discussed at some length. In this later pamphlet of thirty-two pages he expounds the principles which he has evolved in constructing reading-books on scientific lines, and thus throws light on the primers which were published last year (*The New Method Readers*. Longmans, Green, and Co., Ltd.).

Mr. West's work is a vast experiment which is likely to affect the education of an enormous number of children whose mother tongue is a minor language, and who require at least a reading knowledge of a major language like English. And as he claims to accelerate the speed of acquiring such a knowledge threefold, the importance of his work is manifest.

The main instrument of the new method is the rightly-constructed primer, and Mr. West has proceeded experimentally and with admirable patience to the task of discovering the correct form which the primers should take. He has analysed the child's vocabulary, he has determined the frequency of letters, he has explored the child's interests in reading, and in the light of these results he has graded the child's approach to the mysteries of print. His pupils are helped to understand by the use of small illustrations, and phonetic puzzles are avoided by the ingenious use of numbers to denote vowel sounds. From the beginning the child is reading for meaning, and this is tested continuously by exercises which do not require a speaking or writing knowledge of the new language, but which demand that the meaning of the words shall be grasped quickly and accurately. In a few lessons the child is reading a simply told story ; at the end of the first primer he has a vocabulary of over two hundred words, and in the supplementary reader he pauses in his acquisition in order to consolidate and enjoy his new power.

We have made a burden of reading in our junior schools at home, and the product is nothing to be proud of. The acquirement of reading is still spread out over many years, and the habit of "barking at print" effectively destroys, in many cases, both the enjoyment of reading and its supreme utility in giving us rapidly the main idea of a writer whose words we "skim." Mr. West's work is significant to the teachers of reading whether to monoglot or bilingual children. F.S.

**The Social and Political Ideas of Some Great Thinkers of the Sixteenth and Seventeenth Centuries :** edit. F. J. C. Hearnshaw, M.A., LL.D. (G. C. Harrap and Co., Ltd. Pp. 220. 7s. 6d.)

This volume of lectures delivered at King's College, London, contains nine chapters : *The Social and Political Problems of the Sixteenth and Seventeenth Centuries*, by the Editor ; Jean Bodin, by J. W. Allen, M.A. ; Richard Hooker, by the Rev. Norman Sykes, M.A., D.Phil. ; Francisco Suarez, by the Venerable A. L. Lilley, M.A. ; King James I, by Miss H. M. Chew, M.A. ; Hugo Grotius, by the Editor ; Thomas Hobbes, by E. L. Woodward, M.A. ; James Harrington, by Miss A. E. Levett, M.A. ; and Benedict Spinoza, by A. D. Lindsay, M.A., LL.D.

It forms a fitting companion to the preceding volumes in the series, and one that repays careful reading. Though some will regret the absence of chapters on other familiar thinkers of the period, the eight selected illustrate the leading principles which were operative. The authors have succeeded in the difficult task of re-creating the life of the period so that the reader feels that the thinkers were concerned with actual problems of religious toleration, of the relation between Church and State, of royal authority, of international relations, of law, and with social and economic problems that were becoming acute.

Students of this period will find much of value in the volume which should, we think, be accessible to the senior boys in our public and secondary schools as well as to those whose interest is less academic. A.E.C.

**Elocution for Teachers and Students :** by Rose I. Patry. (Geo. Allen and Unwin, London. Pp. 128. 4s. 6d. net.)

The author has been a teacher of elocution for many years, and has, in this book, collected many exercises which she has found of value in speech training and in the correction of defects in the voice. Teachers will not agree in all respects with the theories of the writer, but will be glad to avail themselves of some of the exercises.



**The Prelude to Poetry :** by Ernest Rhys.

**The Life of Charles Dickens.** In two volumes : by John Forster.

**On the Study of Words, and English Past and Present :** by Richard Chevenix Trench. (Dent, Everyman's Library. 2s. each volume.)

A student with limited means to expend on books, but anxious to build up a library, could hardly do better than search carefully the list of Everyman's Library to see if the type of book he desires at the moment is not represented there. And these recent additions to that wonderful series are by no means the least valuable. It is good to hear the poets on their own art. Trench's book will remain a classic, whatever more recent knowledge may have to correct in him; and even if the Life of Dickens is given too largely to his letters, they are worth their price and more for the first part of the first volume alone with its wonderful story of the great writer's boyhood.

**A Source-Book of Welsh History :** by Mary Salmon, M.A. (Oxford, at the University Press. 1927. 300 pp. 7s. 6d. net.)

This little volume will be found a valuable aid to the teaching of Welsh history, and will help to give life and colour to the history lesson. It covers the period from early times to about 1536, and, as the first source-book in Welsh history, it is a well-arranged and representative collection. The extracts are, on the whole, judiciously selected and carefully translated. The editing is less successful, and there are indications that Miss Salmon is not in touch with the more recent developments in the subject. Certain extracts could well be omitted and place found for such important subjects as the dispute between the King and the last Llywelyn, the struggle between Crown and Marcher-Lords, the Black Death and the accompanying social changes. The maps are clear, but are not well placed in relation to the text. Some of these appear to be based on well-known maps and repeat their mistakes. W.R.

**Makers of Science : Electricity and Magnetism :** by D. M. Turner. (Oxford University Press. Pp. 184+xv. 7s. 6d. net.)

This is a companion volume to Dr. Hart's earlier volume on Makers of Science; Mathematics, Physics, and Astronomy, and well maintains the high standard set by that book. The writer has described the main developments of electrical science to the end of the nineteenth century, and the book will be of real service to those teachers of physics—fortunately an increasing number—who endeavour, in spite of the pressure exerted by examination requirements, to give a humanistic touch to their teaching. The book should be found in the science reference library in our schools.

The value of the book is enhanced further by the stimulating introduction written by Dr. Singer.

**Elements of General Zoology :** by William J. Dakin. (Oxford University Press. Pp. 496. 12s. 6d.)

This volume by the Professor of Zoology at Liverpool University is a comprehensive introduction to the study of zoology, clear in exposition and freely and admirably illustrated. Professor Dakin seems to us to follow thoroughly sound lines—namely, the emphasis of function and its relation to structure; the close correlation of the general study of the subject with experiments, often of a simple nature; and the grouping of most of his material round general and especially physiological topics, such as nutrition, respiration, movement, these being treated at various levels of evolution, as well as at various stages of the individual. We can heartily recommend the volume.

**Apes and Men :** by Harold Peake and Herbert John Fleure.

**Hunters and Artists :** by Harold Peake and Herbert John Fleure.

(Clarendon Press, Oxford. Pp. 134 and 150 respectively. Each 5s. net.)

These books deal with the two earliest great stages in the evolution of man, giving a brief but comprehensive view of the results of recent developments in the scientific study of early man. As the names of the authors would lead us to expect, they are most acceptable works and the many admirable illustrations add greatly to their value.

**The Carfax Books of English Verse : The Approach to Poetry :** by Dr. Robert Jones and Florence Jones. (Sidgwick and Jackson, Ltd.)

The "Approach to Poetry" forms a preface and teacher's handbook to the series. It describes the method of selection—the rejection of verse below an undefined standard, the minimum of poems dealing with gloom, horror, death, and cynicism, the inclusion of few love poems; it contains notes on the poems, usually good, but occasionally unsuited for presentation to the pupils, e.g., the note on Wenceslas is meaningless for pupils aged eight; in addition there is an adequate glossary and an index to first lines.

The eight books of poems form an anthology intended to meet the needs of pupils aged eight to sixteen. This subdivision enables the publishers to use in the first books type and spacing suited to the needs of young children, but we feel that the same end could have been achieved and expense curtailed by reducing the number of volumes. The cost of each volume is reasonable, but as an anthology the cost of the series is high. A.E.C.

**An Introduction to the Study of Map Projections :** by J. A. Steers, M.A. (University of London Press. xxiii+189 pp. 7s. 6d.)

This book is meant to be used by teachers and other students of geography who desire something intermediate between such works as the excellent "Little Book on Map Projection" by Dr. Garnett and the advanced work by Hinks. As such, Mr. Steers' book may be well recommended, for it should prove very helpful in solving the many knotty problems which beset the student, especially the student with only an elementary knowledge of mathematics. Mr. F. Debenham, of the Cambridge School of Geography, has contributed a foreword containing some useful hints to beginners in this study.

**Rise and Progress of the Dalton Plan :** by A. J. Lynch. (Philip and Son. Pp. xii+164. 4s.)

Mr. Lynch continues his very useful endeavour to organize individual teaching, on Miss Parkhurst's principles as applied to the conditions of public elementary schools. Some of his chapters are, perhaps, superfluous, for his previous book, along with the other publications on the Dalton system, had already given us the information which is here repeated. Nevertheless, one can scarcely blame an enthusiast for repeating his gospel, and many teachers will doubtless be glad to have this practical sketch of what can be accomplished in the upper standards by a head master who has mastered the doctrine of individuality in the classroom.

**Europe in the Nineteenth Century :** by A. J. Grant, M.A., and H. W. V. Temperley, D.Litt. (Longmans. Pp. xix+569. 12s. 6d. net.)

This book is characterized, as the authors themselves say, by a view which is "cosmopolitan rather than national, political and cultured rather than military or religious." The five parts into which the book is divided deal, not with separate nations, but with great movements in Europe as a whole—for example French, German, and Russian Imperialism, the Great Alliances, and the Balance of Power. The work is undoubtedly a most valuable addition to the literature of nineteenth century history.

**A History of Europe :** by I. K. Plunket and R. B. Mowat. (Oxford University Press. Pp. xix+805. 8s. 6d. net.)

Stresses the unity of the civilization of Europe with the hope that the "exaggeration of national feeling" will be softened, and the culture of other nations appreciated. This book has many well chosen illustrations—from ancient coins to modern cartoons in *Punch*. It would serve as a useful book for college students or upper classes secondary schools—though perhaps overfull of facts; and at the price it is wonderful value.

**Humour of To-Day :** An Anthology, selected by F. H. Pritchard. (G. G. Harrap and Co., Ltd. Pp. 239. 2s. 6d.)

The editor has succeeded in presenting a collection of selections which, in addition to being fairly representative of the best modern humour, should appeal to pupils of all ages. The addition of exercises on each extract may meet a demand from some teachers, but their presence in the book may easily prevent that wholehearted enjoyment by the pupils which leads to further reading.



PUBLICATIONS ALSO RECEIVED.

ENGLISH.

- Hamlet** (New Reader's Shakespeare) : edited by G. B. Harrison and F. H. Pritchard. (Harrap. Pp. 192. 1s.)
- Hamlet : The Swan Edition of Shakespeare's Plays.** (Longmans, Green, and Co., Ltd. Pp. xxviii+127. 1s. 9d.)
- The Longer Standard Spelling List** : by W. Boyd. (Harrap. Pp. 48. 6d.)
- De Quincey** : Selections by M. R. Ridley. (Oxford, Clarendon Press. Pp. xvi+195. 3s. 6d.)
- Poets of the Romantic Revival** : by G. H. Crump, M.A. (Harrap. Pp. 269. 2s. 6d.)
- Ten-Minute Tales** : by Stephen Southwold. (Longmans. Pp. 178. 2s. 3d.)
- Cambridge Lessons in English.** Book I : by George Sampson. (Cambridge University Press. Pp. 104. 1s. 6d.)
- Letters of Horace Walpole** : edited by D. M. Stuart. (Harrap. Pp. 236. 2s. 6d.)
- Tales from Dickens** : by J. W. McSpadden. (Harrap. Pp. 136. 1s. 6d.)
- The Story of Elizabethan Drama** : by G. B. Harrison. (Cambridge University Press. Pp. 134. 3s.)
- Selections from the English Poets** : by C. G. Hall. Books 3 and 4. (Harrap. 160 pp. Each 1s. 6d.)
- Gray : Poetry and Prose** : by J. Crofts. (Oxford, Clarendon Press. Pp. xii+176. 3s. 6d. net.)
- Junior English Extracts and Exercises** : by F. H. Pritchard. (Harrap. Pp. 223. 2s. 3d.)
- Grip-Fast English Books** : Books 5 and 6. (Longmans. Book 5, pp. xii+160, 2s. 3d. ; Book 6, pp. xvi+189, 2s. 6d.)

FRENCH.

- A Practice Book of French Phonetics** : by B. Libbish. (Sidgwick and Jackson. Pp. 32. 9d.)
- A French Reader for Science Students** : by J. Bithell. (Methuen. Pp. ix+155. 3s. 6d.)
- La Composition Libre** : by L. M. Hayes. (Harrap. Pp. 144. 2s. 6d.)
- Cambridge Readings in French Literature** : by A. Tilley. (Cambridge University Press. Pp. xv+224. 5s.)
- A Junior Manual of French Composition** : by R. L. G. Ritchie and J. M. Moore. (Cambridge University Press. Pp. xi+252. 3s. 6d.)
- Voici la France** : by M. Clement and T. Macirone. (Harrap. Pp. viii+287. 3s. 6d.)
- Les pattes de Mouche** : by Victorien Sardou. (Harrap. Pp. vi+151. 2s.)
- French of To-day** : by H. N. Adair. (Sidgwick and Jackson. Pp. vi+269. 2s. 6d.)

## BOOK REVIEWS.

### HISTORY.

**A Notebook of European History :** by S. H. McGrady. (Methuen. Pp. viii+230. 3s. 6d.)

**Readings from the Great Historians, Vol. VI :** by D. M. Ketelbey. (Harrap. Pp. 439. 4s. 6d.)

**Episodes in the History of England :** by A. J. Ireland. (Longmans, Green, and Co., Ltd. Pp. xiv.+263. 3s. 6d.)

**State and Commons : An Introductory History of the British Commonwealth, Vol. III :** by S. S. Cameron. (Bell. Pp. xix+164. 2s. 3d.)

**The Founding of the Roman Empire :** by F. B. Marsh, Ph.D. (Oxford University Press. Pp. vii+313. 10s. 6d. net.)

A revised edition of the book first published in 1922.

**The Grip-Fast History Books :** by F. A. Forbes. (Longmans, Green, and Co., Ltd. Book 4, pp. x+195, 2s. 6d. ; Teacher's Book 4, pp. viii+83, 4s. ; Teacher's Book 5, pp. x+219+43).

### SCIENCE.

**Readable Physiology and Hygiene :** by J. A. Campbell, M.D., D.Sc. (Bell. Pp. xiv+229. 3s. 6d.)

**Readable School Biology :** by C. H. Latter. (Bell. Pp. xii+143. 2s. 6d.)  
A worthy addition to an admirable series.

**Groundwork of Modern Science :** by J. M. Moir, M.Sc. (Longmans. Pp. vii+236. 3s. 6d.)

**Quantitative Analysis :** by D. B. Briggs. (Sidgwick and Jackson. Pp. vii+135. 3s. 6d.)

### GEOGRAPHY.

**North America :** by C. Matheson, M.A., F.R.S.G.S. (Oxford, Clarendon Press. Pp. 255. 3s. 6d.)

### MATHEMATICS.

**Exercises in Arithmetic, Parts I and II :** by E. R. Pigrome. (Oxford, Clarendon Press. Pp. 78 and 92. 1s. each part.)





